

Before the
Federal Communications Commission
Washington, D.C. 20554

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In the Matter of)
)
Year 2000 Biennial Regulatory Review –) WT Docket No. 01-108
Amendment of Part 22 of the Commission’s Rules)
to Modify or Eliminate Outdated Rules Affecting)
the Cellular Radiotelephone Service and other)
Commercial Mobile Radio Services)

REPORT AND ORDER

Adopted: August 8, 2002

Released: September 24, 2002

By the Commission: Commissioner Copps approving in part, dissenting in part, and issuing a separate statement; Commissioner Martin approving in part, concurring in part, and issuing a separate statement

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I. INTRODUCTION

As part of our year 2000 Biennial Review of regulations, we amend Part 22 of our rules by modifying or eliminating various rules that have become outdated due to technological change, increased competition in the Commercial Mobile Radio Services (CMRS), or supervening rules. We undertake this review as directed by section 11 of the Communications Act of 1934, as amended (Act).¹ Section 11 of the Act mandates that we review all of our regulations relating to providers of telecommunications service and “determine whether any such regulation is no longer necessary in the public interest as the result of meaningful economic competition between providers of such service.” In the event that we determine that a rule is “no longer necessary in the public interest” as the result of meaningful economic competition, section 11 provides that we “shall repeal or modify” the subject regulation. Accordingly, in this *Report and Order*, we:

- Modify sections 22.901 and 22.933 of our rules to eliminate, after a five-year transition period, the requirement that carriers provide analog service compatible with Advanced Mobile Phone Service (AMPS) specifications.
- Remove the manufacturing requirements found in section 22.919 governing electronic serial numbers (ESNs) in cellular telephones.
- Eliminate cellular channelization provisions of section 22.905.
- Remove the requirement in section 22.915 that cellular systems have the capability to provide service using the modulation types specified in the Office of Engineering and Technology Bulletin No. 53 (OET 53), and modify language in section 22.917 regarding the out-of-band emission limit.
- Eliminate the requirement in section 22.367 of our rules requiring that electromagnetic waves radiated by transmitters be vertically polarized.
- Eliminate the procedures and rules set forth in section 22.941 by which the Commission administers cellular system identification numbers (SIDs).

¹ 47 U.S.C. § 161.

- Clarify the language in section 22.911(b) regarding the term “SAB” (service area boundary) in situations in which a carrier employs alternative methods to determine the cellular geographic service area (CGSA)² of its system.
- Resolve issues relating to the incidental services rule, cellular anti-trafficking, as well as other Part 22 issues raised by commenters.

II. BACKGROUND

2. In January 2001, pursuant to the statutory mandate under section 11 of the Act requiring us to review our rules, Commission staff completed an evaluation of regulations affecting telecommunications service providers, and issued a report regarding recommendations made as a result of that review.³ In its review, the staff recommended that we reexamine the cellular rules and determine whether any of the rules are no longer necessary as a result of the technological advances and growth in competition that have occurred in mobile telephony since the rules were first promulgated. In the *Biennial Review Report*, we accepted the staff's recommendation to initiate a rulemaking to review the Part 22 cellular rules⁴ to consider which rules are obsolete because of competitive or technological developments. We also followed the recommendation to review rules regulating other Part 22 services on the same basis.⁵ Accordingly, in May 2001, we issued a *Notice of Proposed Rulemaking (NPRM)* seeking to identify and address outdated rule sections of Part 22.⁶

3. In the *NPRM*, we noted that our rules governing the cellular service have changed little since we first initiated the service in the early 1980s.⁷ Although the Commission re-evaluated certain of its Part 22 rules in 1994 in the *Part 22 Rewrite*,⁸ many of the Commission's general technical rules remain unchanged since the cellular service was established. The wireless environment, however, has changed significantly in the interim. As we observed in the *NPRM*, technological advances have allowed cellular carriers to increase the capacity of their systems, and to provide advanced services to their customers in the form of enhanced service quality and advanced calling features. Moreover, the mobile telephony industry has become much more competitive with the entry of CMRS providers using technologies other than analog cellular into the market. Many of our cellular rules, however, do not reflect these developments, and continue to be more applicable to the earlier forms of cellular than the more advanced digital services available today. Accordingly, we concluded in the *NPRM* that it is appropriate to re-examine our original cellular rules to determine whether certain rules should be eliminated or modified.

² A CGSA is the geographic area served by a cellular system.

³ See Biennial Regulatory Review, CC Docket No. 00-175, *Report*, 16 FCC Rcd 1207 (2001) (*Biennial Review Report*); Biennial Regulatory Review 2000 Updated Staff Report (rel. Jan. 17, 2001) (*Biennial Review Staff Report*).

⁴ 47 C.F.R. §§ 22.900 *et seq.*

⁵ See *Biennial Review Staff Report* at para. 104.

⁶ Year 2000 Biennial Regulatory Review – Amendment of Part 22 of the Commission's Rules to Modify or Eliminate Outdated Rules Affecting the Cellular Radiotelephone Service and other Commercial Mobile Radio Services, *Notice of Proposed Rulemaking*, 16 FCC Rcd 11169 (2001) (*NPRM*).

⁷ *NPRM* at para. 7.

⁸ In the Matter of Revision of Part 22 of the Commission's Rules Governing the Public Mobile Services, CC Docket No. 92-15, *Report and Order*, 9 FCC Rcd 6513 (1994) (*Part 22 Rewrite*).

III. DISCUSSION

A. Section 11 of the Communications Act.

4 In 1996, Congress anticipated that the development of competition would lead market forces to reduce the need for regulation and amended the Communications Act of 1934 to permit and encourage competition in various communications markets.⁹ Section 11 of the 1996 Act requires us to review biennially all of our regulations “that apply to the operations or activities of any provider of telecommunications service” and to “determine whether any such regulation is no longer necessary in the public interest as a result of meaningful economic competition between providers of such service.”¹⁰ In the past, we have looked to the plain meaning of the text for guidance in exercising our obligation pursuant to section 11.¹¹ We have stated that “the language places an obligation on the Commission to ‘determine’ if the regulation in question ‘is no longer necessary in the public interest as the result of meaningful economic competition.’”¹² Further, section 11 explicitly provides that “the Commission shall repeal or modify” any regulation that it determines is no longer necessary in the public interest as a result of meaningful economic competition.¹³ We note that section 11 places the burden on the Commission to make the requisite determinations; no particular burden is placed on the opponents or proponents of a given rule.¹⁴ We have previously interpreted the language of section 11 as directing us to examine why a rule originally was “necessary” and whether it continues to be necessary.¹⁵ We have found that in making the determination whether a rule remains “necessary” in the public interest once meaningful economic competition exists, the Commission must consider whether the concerns that led to the rule or the rule’s original purposes may be achieved without the rule or with a modified rule.¹⁶

⁹ See Telecommunications Act of 1996, Pub. Law No. 104-104, 110 Stat. 56 (1996) (“1996 Act”), introductory statement (the 1996 Act was intended “[t]o promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies.”); Joint Managers’ Statement, S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess. 113 (1996) at 1 (stating that the 1996 Act would establish a “pro-competitive, deregulatory national policy framework”).

¹⁰ See 47 U.S.C. § 161. Section 11 states:

BIENNIAL REVIEW OF REGULATIONS. – In every even-numbered year (beginning with 1998), the Commission -- (1) shall review all regulations issued under this Act in effect at the time of the review that apply to the operations or activities of any provider of telecommunications service; and (2) shall determine whether any such regulation is no longer necessary in the public interest as the result of meaningful economic competition between providers of such service.

(b) EFFECT OF DETERMINATION. – The Commission shall repeal or modify any regulation it determines to be no longer necessary in the public interest.

¹¹ See In the Matter Of 2000 Biennial Regulatory Review Spectrum Aggregation Limits for Commercial Mobile Radio Services, WT Docket No. 01-14, *Report and Order*, 16 FCC Rcd 22628, para. 25 (2001) (*Spectrum Cap Order*).

¹² *Id.* (quoting 47 U.S.C. § 161(a)(2)).

¹³ 47 U.S.C. § 161(b).

¹⁴ See *Spectrum Cap Order* at 22678-79, para. 25.

¹⁵ *Id.* at 22679, para. 25.

¹⁶ *Id.* We note that, in the context of section 202(h) of the Communications Act, the U.S. Court of Appeals for the D.C. Circuit found that we are not limited to the original purpose of a rule when determining whether or not it remains necessary. See *Fox Television Stations, Inc. v. FCC et al.*, 280 F.3d 1027 (D.C. Cir. 2002) (“Nothing in §

B. Analog Cellular Compatibility Standard.

1. Overview.

5. In establishing the Cellular Radiotelephone Service in the early 1980s, the Commission found that a single technology -- analog -- should be mandated to accomplish two goals: 1) to enable subscribers of one cellular system to be able to use their existing terminal equipment (*i.e.* mobile handset) in a cellular market in a different part of the country (roaming); and 2) to facilitate competition by eliminating the need for cellular consumers to acquire different handset equipment in order to switch between the two competing carriers within the consumers' home market (thus ensuring reasonable consumer costs.). To facilitate these goals, all carriers were required to provide service exclusively in accordance with the then-existing compatibility standard for analog systems, known as Advanced Mobile Phone Service (AMPS). The detailed technical standards for AMPS were set out in the Office of Engineering and Technology Bulletin No. 53 (OET 53) in April 1981. The OET 53 specifications established technical operational parameters and descriptions of call processing algorithms and protocols to be used by analog cellular systems.¹⁷ Pursuant to section 22.901, a carrier must provide service to any subscriber within the carrier's CGSA, including both the carrier's subscribers and roaming customers that are using technically compatible equipment.¹⁸ Section 22.901(d) specifically requires that carriers make mobile services available to subscribers whose mobile equipment conforms to the AMPS compatibility standard.¹⁹ Our cellular rules, in effect, continue to obligate carriers to provide analog service consistent with the standard identified two decades ago in OET 53.

6. Given the rapid growth of the mobile telephony industry, we sought comment in the *NPRM* on whether to modify or eliminate the rules governing the provision of analog service by cellular carriers.²⁰ We inquired whether the analog service compatibility requirement remains necessary to facilitate competition or to ensure the availability of service to all cellular consumers. We also requested comment on whether market forces now provide a sufficient incentive for cellular providers to utilize compatible and/or interoperable technologies to ensure nationwide operating capability.²¹ We were particularly interested in whether eliminating the rule requiring carriers to operate their analog facilities consistent with the AMPS compatibility standard would have any impact on the continued provision of service to existing analog consumers.²² Although there are a variety of mobile telephone technologies and services now available to consumers, we noted that there may be some consumers who lack access to alternatives to analog services.²³ We indicated that we are particularly concerned with the potential

202(h) suggests the grounds upon which the Commission may conclude that a rule is necessary in the public interest are limited to the grounds upon which it adopted the rule in the first place.”)

¹⁷ See *An Inquiry into the Use of the Bands 825-845 MHz and 870 MHz and 870-890 MHz for Cellular Communications Systems; Amendment of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems*, CC Docket No. 79-318, *Report and Order*, 86 FCC 2d 469, 1508 at paras. 92-93.

¹⁸ 47 C.F.R. § 22.901; See *Interconnection and Resale Obligations Pertaining to Commercial Mobile Services*, CC Docket No. 94-54, *Second Report and Order and Third Notice of Proposed Rulemaking*, 11 FCC Rcd 9462, 9469-9470, para. 11 (1996); *Interconnection and Resale Obligations Pertaining to Commercial Mobile Services*, CC Docket No. 94-54, *Third Report And Order and Memorandum Opinion and Order on Reconsideration*, 15 FCC Rcd 15975, para. 21 (2000).

¹⁹ 47 C.F.R. § 22.901(d).

²⁰ *NPRM* at para. 23.

²¹ *Id.* at para. 24.

²² *Id.* at para. 26.

²³ *Id.*

effects on those with hearing disabilities,²⁴ and emphasized that we would not take any action that would undermine service to these individuals.²⁵

7. Certain commenters assert that, due to the growth of the mobile telephony services market and increased competitiveness, the analog standard has served its original purposes and is no longer necessary.²⁶ They further argue that compliance with the rule imposes significant costs and creates inefficiency.²⁷ These commenters agree with our suggestion in the *NPRM* that the current market no longer requires us to be involved in regulating technical standards.²⁸ Other commenters, however, argue that until digital systems are built out more extensively, an analog requirement is still needed to facilitate roaming.²⁹ Further, certain commenters contend that there are analog-only consumers that will be unduly affected by the immediate removal of the analog requirement.³⁰

8. After reviewing the record, we conclude that in light of the present competitive state of mobile telephony, the nationwide coverage achieved by cellular carriers, and the clear market demand for nationwide, ubiquitous coverage by carriers, the analog requirement has substantially achieved its purpose of ensuring that the public has access to low-cost, compatible equipment and to nationwide roaming. Not only do we determine that the rule is no longer necessary to achieve its purposes, we conclude that it imposes costs and impedes spectral efficiency. The development of the mobile telephony industry further leads us to find that these objectives can largely be accomplished by market forces without the need for regulation. We therefore conclude that the analog requirement should be removed. However, eliminating the rule immediately without a reasonable transition period would be extremely disruptive to certain consumers, particularly those with hearing disabilities as well as emergency-only consumers, who currently continue to rely on the availability of analog service and lack digital alternatives. Accordingly, we modify our rules requiring application of the analog compatibility standard to include a sunset period of five years, during which time we anticipate that problems regarding access will likely be resolved. In order to enable us to monitor the adequacy of access to mobile telephony by those currently reliant on analog service, certain CMRS carriers³¹ will be required to file reports prior to the sunset, describing the extent to which hearing aid-compatible digital devices are available to and usable by consumers with hearing disabilities, and the progress made in informing their customers of the impact of the 5-year sunset

²⁴ *Id.* at para. 27.

²⁵ *Id.* at para. 30.

²⁶ AT&T Wireless Comments at 2-3; Cingular Comments at 3; CTIA Comments at 8-10; Ericsson Comments at 2-3.

²⁷ AARP Comments at 1; AT&T Wireless Comments at 3; CNH Comments at 4; Cingular Comments at 3-5; Sprint Comments at 2; U.S. Cellular Comments at 3; Verizon Comments at 10; Cingular Reply Comments at 2, 6-7.

²⁸ CTIA Comments at 9.

²⁹ *See e.g.* Bristol Bay Cellular Comments at 3; Qwest Comments at 2-3; Sprint Comments at 2-4; Verizon Comments at 3-4.

³⁰ *See e.g.* ATX Technologies Comments at 13-16; Bristol Bay Comments at 3; Qwest Comments at 2-3; Sprint Comments at 2-4.

³¹ In the United States, there are six mobile telephony operators that analysts typically describe as nationwide: AT&T Wireless, Sprint, Verizon, VoiceStream Wireless Corporation, Cingular, and Nextel Communications, Inc. Three of these carriers, AT&T Wireless, Verizon, and Cingular, operate analog facilities. When an operator is described as being "nationwide," it does not necessarily mean that the operator's license areas, service areas, or pricing plans cover the entire land area of the United States. The six mobile telephony carriers that analyst reports typically describe as nationwide all offer service in at least some portion of the western, midwestern, and eastern United States. In addition, based on FCC internal analysis, the six national operators, including affiliates and partnerships, have licenses covering between 230 and 285 million people, while the next largest provider of mobile telephony service has licenses covering fewer than 60 million people.

date on 911-only phones and analog-only phones, as well as the availability of digital replacements for donated analog phones.

2. Indefinite Retention of the Analog Requirement is not Warranted.

9. *Background.* When the rules for cellular service were initially established, the Commission's goals for the cellular service included the creation of a nationwide, technologically compatible service.³² The Commission sought to give mobile telephony subscribers the ability to roam --- that is, to use their existing mobile handsets in a different cellular system in a different part of the country.³³ The Commission set out detailed technical requirements and specifications regarding analog cellular service in order to be consistent with this goal of nationwide, compatible cellular service.³⁴ Moreover, the Commission was concerned about the competitive implication of the cellular duopoly it had created through the issuance of two licenses per market, and used these compatibility standards as a means to foster competition by ensuring reasonable costs to subscribers in the event they wished to change carriers. Compatibility of technology promoted competition and ensured lower prices and convenience for consumers by eliminating the need to acquire additional handsets in order to roam or switch between the two competing carriers in their home market area. In the *NPRM*, we observed that use of the analog compatibility standard may have been helpful in facilitating competition in the initial stages of the cellular service, but that, in light of the present competitive market for mobile telephony services, it may not be necessary to maintain this rule in order to facilitate competition or to ensure nationwide roaming.³⁵

10. *Discussion.* As described more fully below, a number of factors leads us to conclude that the public interest does not support an indefinite retention of the analog requirement. We find that it is not necessary to retain the analog requirement in order to ensure competition. Indeed, we conclude that continuing to require carriers to operate consistent with the AMPS standard may hinder competition by causing spectral inefficiencies and increased costs to those carriers who would prefer to concentrate on digital technology. Additionally, the robust mobile telephony market leads us to conclude that the analog requirement is no longer necessary to ensure reasonable costs, as well as the continued availability of roaming to the vast majority of consumers. Removal of the requirement is consistent with our desire to move toward a less regulatory approach, as well as a congressional directive to treat similarly-situated CMRS in a like manner. We are unpersuaded by arguments made by certain service providers that we must continue to impose a twenty-year old technical standard on cellular carriers as a whole in order to prevent possible disruptions to their operations.

11. *The analog requirement is no longer needed to foster competition.* As noted, one of the underlying rationales behind the analog requirement was to provide consumers with a choice between service providers within a market. The Commission sought to ensure that there was competition, albeit

³² See An Inquiry Relative to the Future Use of the Frequency Band 806-960 MHz; and Amendment of Parts 2, 18, 21, 73, 74, 89, 91, and 93 of the Rules Relative to Operations in the Land Mobile Service Between 806 and 960 MHz, Docket No. 18262, *Second Report and Order*, 46 FCC 2d 752, 801, Appendix C, III(f) (1974); *Memorandum Opinion and Order*, 51 FCC 2d 945, 1009, Appendix F, IV(f) (1975); see also An Inquiry Into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Systems; and Amendment of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems, 78 FCC 2d 984, 1002, paras. 52-63 (1980).

³³ *Id.*

³⁴ In The Matter Of An Inquiry Relative to the Future Use of the Frequency Band 806-960 MHz; Amendment Of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems, CC Docket No. 79-318, *Notice of Inquiry and Notice of Proposed Rulemaking*, 78 FCC 2d (1980).

³⁵ *NPRM* at para. 23.

limited, within any given market by compelling carriers to operate consistent with AMPS specifications as well as requiring that carriers serve all subscribers using AMPS-compatible handsets. The mobile telephony industry, however, has changed immensely in the two decades since the establishment of the cellular service. The market for mobile telephony service now includes the Personal Communications Services (PCS) and the Specialized Mobile Radio (SMR) service in addition to cellular. As noted in our *Seventh CMRS Competition Report*, 268 million people, or 94 percent of the total U.S. population, currently reside in areas in which three or more different operators (cellular, broadband PCS, and/or digital SMR providers) offer mobile telephony service in the counties in which they live.³⁶ Over 229 million people, or 80 percent of the U.S. population, live in counties with five or more mobile telephony operators offering service,³⁷ while 151 million people, or 53 percent of the population live in counties with at least six different mobile telephony operators.³⁸ Accordingly, we find that the analog requirement is no longer necessary to ensure that consumers have a choice of more than one wireless service provider.

12 Indeed, rather than encouraging competition, we conclude that, in many instances, the analog requirement harms competition by imposing unnecessary operating costs and impeding the spectral efficiency of the two cellular providers in the market. First, the analog requirement places a financial burden on cellular licensees who would prefer to use their spectrum and other resources on digital technology rather than setting aside a portion to support their analog facilities. Cellular licensees that deploy digital technologies must also maintain a minimum scale analog network. These cellular licensees incur operation and maintenance costs for two mobile telephony networks in order to comply with Commission rules.³⁹ Also, by maintaining two networks, operation and maintenance costs associated with the digital network may be higher because the carrier is not able to optimize the system as efficiently as it would if there was only one network. Second, we also agree with commenters who argue that imposition of the analog requirement impedes spectral efficiency. Digital technologies are more efficient than analog, use less bandwidth,⁴⁰ and give consumers access to advanced services not feasible with analog.⁴¹ The analog requirement prevents cellular licensees from choosing to efficiently utilize their spectrum by installing an all-digital network and potentially providing additional advanced services.⁴² Further, the analog requirement may result in certain carriers being capacity constrained in certain geographic markets depending on the amount of spectrum dedicated to AMPS, usage by AMPS customers, type of digital technology, and how intensively their digital customers utilize their services.⁴³

³⁶ *In the Matter of 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, Seventh Report; Appendix C, Table 4, at C-5 (2002) (Seventh CMRS Competition Report) (2002).*

³⁷ *Id.*

³⁸ *Id.*

³⁹ These costs include stocking sufficient spare parts, training technicians and the maintenance of extra facilities to transport traffic throughout the network. See AT&T Wireless January 30, 2002 *Ex Parte* Presentation at 2.

⁴⁰ AT&T Wireless Comments at 3; Cingular Comments at 3; and U.S. Cellular Comments at 3; CNH Comments at 4; AARP Comments at 1.

⁴¹ AT&T Wireless Comments at 3; Cingular Comments at 3-5; Cingular Reply Comments at 2, 6-7; Sprint Comments at 2; Verizon Comments at 10 and U.S. Cellular Comments at 3.

⁴² Cingular Comments at 3.

⁴³ Cingular estimates that freeing up analog channels to convert to digital technologies would yield a 25 percent capacity gain. Cingular Comments at 5. Cingular estimates that cellular carriers are required to dedicate approximately 16 percent of their spectrum to provide minimum analog service. Sprint PCS Comments at 5, citing Declaration of Richard J. Lynch on behalf of Verizon Wireless, WT Docket No. 01-14 at 6, paras.18-19 (May 14, 2001). Sprint cites to estimates submitted in our *Spectrum Cap* proceeding that the minimum amount of spectrum a cellular carrier needs to dedicate to the provision of analog service is 5 MHz. Therefore, according to this estimate,

Thus, to the extent that a cellular carrier incurs costs to operate an analog network that it would not maintain but for the analog requirement, we conclude that the rule imposes unnecessary financial burdens and hinders spectral efficiency. These factors in turn impede the ability of the cellular carrier to compete vis-a-vis other mobile telephony providers who are not subject to the requirement.

13. *Access to reasonably priced equipment is not dependent on the continued imposition of the analog requirement.* It is no longer the case that the analog requirement is needed to ensure reasonably priced equipment, and, as a result, increased competition. Because early cellular mobile equipment was expensive, the Commission concluded that it was cost-prohibitive for consumers to switch providers in the event the two carriers in the market utilized different technical standards.⁴⁴ The Commission found that consumers would be discouraged from switching cellular providers if they had to purchase additional equipment in order to be served by the second carrier. The Commission found that mandating a specific technology would enable consumers to choose between carriers without regard to cost of equipment, thereby encouraging competition between the carriers. Today, however, mobile handsets are much less expensive.⁴⁵ As noted in the *NPRM*, the declining cost of such equipment as well as the frequent carrier subsidy of the cost of the telephones have diminished the handset disincentives for consumers switching between providers (whether cellular or other CMRS). Consumers are now able to easily choose from a panoply of carriers and technologies. Given the wide variety of equipment and service offerings available to consumers today, we conclude it is not necessary to continue to mandate the analog requirement for this purpose.

14. *Roaming is not dependent on the analog requirement.* We continue to consider the existence of a nationwide, compatible service to be a major goal for the cellular service. However, given the current competitive state of mobile telephony, we conclude that consumers will continue to have the ability to roam outside of their home markets even in the absence of the analog requirement. We disagree with commenters who assert that small and regional carriers that primarily serve Rural Service Areas (RSAs), and their subscribers will be unduly harmed by the elimination of the analog service requirement.⁴⁶ In the years since the cellular service was established, many CMRS providers using digital technology, particularly broadband PCS and SMR services, have developed and established a strong market presence. When the rules for market-based PCS and SMR services were established, the Commission declined to impose technological compatibility rules, and allowed carriers the flexibility to implement air interface technologies of their own choosing.⁴⁷ In the absence of a Commission-mandated

a mobile telephony provider with a 25 MHz cellular license may need to dedicate at least 1/5 of its licensed spectrum to provide analog service. Verizon, however, asserts that eliminating the analog service requirement will not result in significant capacity gains because spectrum dedicated to analog service is small especially in high-density markets, and is expected to decline over the next two to three years. Verizon Comments at 10-12. Verizon estimates that on average analog usage in former Bell Atlantic markets represents only about 12 percent of its minutes of use (MOU) in these areas. In high-density areas this falls to six percent. Verizon expects analog MOU to fall to approximately 1 to 2 percent in the next two to three years.

⁴⁴ See *NPRM* at para. 7, n. 9.

⁴⁵ For example, in the early 1980s, a car phone sold for approximately \$5,000 and cellular phones could cost \$3,000. Currently, mobile handsets may be purchased for less than \$100, and often for substantially lower prices in situations where a subscriber signs a service agreement with a carrier for one or more years.

⁴⁶ ATX Technologies Reply Comments at 5, 8; Bristol Bay Comments at 2-3, 6-7; Mid-Missouri Cellular et al. Comments at 4, 6-10; Secure Alert Comments at 3; Verizon Comments at 7; WCA Comments at 4; CNH Reply Comments at 3; Mid-Missouri Cellular et al. Reply Comments at 5-6; RCA Comments at 5-8; RTG Comments at 3-6; NII Colorado Reply Comments at 2; Century Tel Comments at 4.

⁴⁷ Today, digital mobile telephony carriers deploy one or more of four digital technologies: Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA), Global System Mobile Communications (GSM) and Integrated Digital Enhanced Network (iDEN). In 1988, the Commission noted that, while the AMPS compatibility

standard for PCS and SMR, carriers have nonetheless established systems providing seamless nationwide service in response to customer demand. Service providers have been successful in establishing nationwide systems, even though they employ different air interface technologies, by acquiring licenses in as many markets as possible, establishing roaming agreements with other carriers who have implemented the same digital technology, and providing multimode⁴⁸ handsets that allow customers to roam using analog cellular service where interoperable digital service is not available. This year, many of the larger carriers are implementing next generation (or 2.5G) voice and data services on their networks, partnering with other carriers to expand digital services to rural markets, and investigating multimode handsets capable of roaming across digital platforms.⁴⁹

15. We do not agree that application of the analog compatibility standard must be retained indefinitely in order to prevent possible disruption to the operations of small and regional carriers. We are not persuaded by arguments that elimination of the analog requirement will force small and regional carriers to convert to digital earlier than they would otherwise in order to ensure seamless service to their customers and other consumers,⁵⁰ or that such a transition will be cost-prohibitive for such service

standard was successful in encouraging compatibility among systems, it also impeded the implementation of newer, more-advanced technology. Accordingly, the Commission permitted cellular carriers to utilize digital technology in addition to analog. In declining to specify a digital standard, the Commission stated that “[i]ndustry is in a better position to evaluate the technical advantages and disadvantages of the various advanced cellular technologies and develop approaches to compatibility.” See *In the Matter of 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*, GEN Docket No. 87-390, *Report and Order*, 3 FCC Rcd 7033 at paras. 51-52 (1988). In the same vein, when it set out technical rules for PCS and other CMRS, the Commission declined to set out a digital compatibility standard, seeking instead to provide licensees flexibility in developing their systems. See *In the Matter of Amendment of the Commission’s Rules to Establish New Personal Communications Services*, GEN Docket No. 90-314, *Second Report and Order*, 8 FCC Rcd 7700 at para. 137 (1993). See also *In the Matter of Implementation of Sections 3(N) and 332 of the Communications Act -- Regulatory Treatment of Mobile Services*, GN Docket No. 93-252; *Amendment of Part 90 of the Commission’s Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band*, PR Docket No. 93-144; *Amendment of Parts 2 and 90 of the Commission’s Rules to Provide For the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and 935-940 MHz Band Allotted to the Specialized Mobile Radio Pool*, PR Docket No. 89-553, *Third Report and Order*, 9 FCC Rcd 7988 at paras. 165-168 (1994).

⁴⁸ Multimode handsets operate in digital mode where such service is available and in analog mode otherwise.

⁴⁹ GSM/ANSI-136 Interoperability Team (GAIT) handsets allow seamless operation between GSM and TDMA networks in a single handset. Sony Ericsson, Nokia and Siemens have developed GAIT-compliant handsets. See, e.g., “Sony Ericsson unveils the T62u, a GAIT-phone with Java for the Americas,” *Press Release* (Mar. 5, 2002). They are scheduled to be available sometime in 2002.

⁵⁰ Bristol Bay Comments at 6-7; RCA Comments at 5-7; RTG Comments at 3-6. Verizon states that consumers in markets with analog-only networks would need to replace their handsets or may not have access to roaming services. See Verizon Comments at 7. Commenters argue that even if subscribers could afford to switch handsets, the various digital technologies are not interoperable and handsets currently on the market do not have the ability to switch between two different digital protocols; therefore, analog networks remain necessary to ensure nationwide, ubiquitous roaming services. Century Tel Comments at 4; Mid-Missouri Cellular et al. Comments at 9. For example dual mode/single band phones can switch between analog and a single digital technology within one frequency band (i.e. 800 MHz CDMA and analog) and tri-mode/dual band phones can switch between analog and a single digital technology using an additional frequency band (i.e. 800 MHz and 1900 MHz CDMA and 800 MHz analog). Commenters argue that it may be possible that carriers in adjacent RSAs will not be deploying the same digital technology. This situation may arise in many RSAs since there are four digital technologies used in the United States, and the choice of roaming partners may be limited to the two cellular licensees. *Spectrum Cap Order* at para. 89. In that case, these parties argue if the analog service requirement is eliminated and both cellular licensees in one market discontinue providing analog service, then some mobile telephony subscribers in

providers or their customers. The choice to switch from analog to digital technology, as well as the rate at which the transition occurs, are business decisions made by the individual carrier. Such determinations, as well as any decisions regarding roaming, are today being market driven. As one commenter observes, a carrier's choice of digital technology is a business decision and any roaming problems that arise are a result of business decisions.⁵¹ Other carriers should not continue to be competitively disadvantaged because of these choices.⁵² Absent other factors arguing against the immediate removal of the analog requirement,⁵³ we agree that market forces --- and not government regulation --- should determine whether and when analog service should be discontinued.⁵⁴ We note that if hearing-aid compatible devices are not available, or market conditions change, we will not eliminate the rule at the conclusion of the five-year period.

16. Indeed, we conclude that market forces are already at work with respect to small and regional carriers. After reviewing current and future market trends in mobile telephony, we find that many small and regional carriers are or will be shifting their systems towards digital technology. We expect that construction by PCS licensees in rural areas will continue to increase, thereby providing digital services to customers in rural areas. With the introduction of digital services by PCS providers, cellular licensees are likely to find it competitively necessary to install or expand their digital network, regardless of whether or not the analog requirement is retained. Moreover, we expect that the increasing presence of multimode handsets will minimize the necessity for small and regional carriers to completely switch to a digital system. We need not keep in place a twenty year-old technical standard to ensure roaming, as we are confident that demand from consumers for ubiquitous access generally will provide sufficient incentive to cellular carriers to resolve problems relating to roaming and interoperability. Accordingly, we conclude that roaming and interoperability concerns held by small and regional carriers are not a sufficient basis to require the continued application of the analog requirement.

17. We do note that the five-year sunset period we are establishing for other reasons should mitigate the concerns of small or regional carriers, such as the disruptions to operations that an immediate elimination of the analog requirement might cause. For example, a transition period permits carriers to evaluate their current and future technology choices as well as those of their current roaming partners. Carriers will have the opportunity to negotiate new contracts where needed to ensure the availability of roaming services to their customers. Also, the elimination of the cellular analog requirement will increase the demand for the development and commercial implementation of multimode/multiband handsets, a process that is already occurring.⁵⁵ By the end of the transition period, these handsets should be widely

geographically proximate markets will no longer be able to roam. RCA Comments at 8; Mid-Missouri Cellular *et al.* Comments at 9-10.

⁵¹ Cingular Reply Comments at 4.

⁵² *Id.* Factors influencing the decision to convert to a digital technology include increasing digital coverage to more areas of the country and changing consumer preferences for regional and nationwide interoperability. *See Id.* at 5. Also, the availability of multimode handsets affects a carrier's decision in converting from analog to digital technology. *See* Cingular Reply Comments at 5 and Verizon Comments at 7.

⁵³ *See infra* paras. 22-31.

⁵⁴ *See* AT&T Wireless Comments at 4; Cingular Comments at 2-3, 6; Cingular Reply Comments at 1-2; Ericsson Comments at 5.

⁵⁵ *See* Roaming Between CDMA and GSM Networks Moves One Step Closer to Reality, WIRELESS INSIDER (Oct. 8, 2001) and Peggy Albright, A Vodafone-Verizon 3G Solution Coming?, WIRELESS WEEK (Jan. 7, 2002) at 4.

⁵⁶ Telematics can be generally defined as the use of location technology and wireless communications to enhance the functionality of motor vehicles, and to provide wireless data applications in vehicles. Telematics services provide a number of automotive and mobile applications, including safety and productivity services. Among the

available and customers may choose to migrate to these new handsets depending on their roaming needs. Further, the transition period provides additional time for PCS licensees in both RSAs and Metropolitan Statistical Areas (MSAs) to further build out their licensed service areas in order to enhance opportunities for roaming for all consumers. Therefore, we believe that consumers, in both RSAs and MSAs, will continue to roam nationwide after a five-year transition period.

18 *The possible impact on telematics providers does not justify retention of the analog requirement.* We are unpersuaded by arguments made by telematics providers that the analog compatibility standard should continue to be mandated because analog service is necessary for their service offerings.⁵⁶ In the *NPRM*, we sought comment on how our proposed changes would affect telematics systems such as OnStar.⁵⁷ In response, telematics providers argue that the elimination of the rule will significantly impair their ability to provide service because these systems require analog technology due to its ubiquitous coverage,⁵⁸ and that there is currently no other widely-deployed technology available to adequately support telematics services.⁵⁹ While digital service providers are continuing to expand their service area footprint, commenters argue that there are still large gaps in coverage, and note that the various digital standards are not interoperable.⁶⁰ Commenters argue that digital systems cannot yet transmit both voice and data on the same call, a feature that commenters argue is important for telematics providers.⁶¹ Commenters assert that the interoperability problem is particularly difficult for telematics devices because manufacturers must choose a technology that is embedded in a vehicle that will have a useful life of ten or more years.⁶² Telematics providers contend that, unlike the typical cellular subscriber who can readily switch to digital handsets if necessary, the development cycle (the length of time necessary to design, test, and install equipment in vehicles) and hardware basis of telematics-equipped vehicles prevents users of such services from quickly and easily

applications are automatic crash notification systems that have the capability to automatically call the appropriate emergency dispatch for help. ATX Technologies Comments at 3; CNH Comments at 1-2; OnStar Comments at 1-2; MBUSA Reply Comments at 3; NAEMSP January 1, 2002 *Ex parte* at 1; Deere Reply Comments at 3.

⁵⁶ *NPRM* at para. 29.

⁵⁷ ATX Technologies Comments at 13; CNH Comments at 3-4; Deere Comments at 5; OnStar Comments at 5-8; Secure Alert Comments at 3; ATX Technologies Reply Comments at 6-7; CNH Reply Comments at 4; Deere Reply Comments at 2-3; MBUSA Reply Comments at 5-6; OnStar Reply Comments at 4; Honda June 24, 2002 *Ex Parte* Presentation at 2; NAEMSP January 1, 2002 *Ex parte* at 2; Toyota July 26, 2002 *Ex Parte* Presentation at 2.

⁵⁸ ATX Technologies Comments at 16; Deere Comments at 5, 7; Secure Alert Comments at 3; Deere Reply Comments at 2; MBUSA Reply Comments at 5; OnStar Reply Comments at 2; Toyota July 26, 2002 *Ex Parte* Presentation at 2.

⁵⁹ *See e.g.* CNH Comments at 3-4; Deere Comments at 7-8; OnStar Comments at 8; Secure Alert Comments at 3; ATX Technologies Reply Comments at 9-13; Deere Reply Comments at 2-3; MBUSA Reply Comments at 5-6.

⁶⁰ ATX Technologies Reply Comments at 12; Audi May 3, 2002 *Ex Parte* Presentation at 2; Honda June 24, 2002 *Ex Parte* Presentation at 2; Onstar July 26, 2002 *Ex Parte* Presentation at 1; Toyota July 26, 2002 *Ex Parte* Presentation at 2. We note, however, telematics service providers have begun the development work to enable their devices to operate on a digital system and we anticipate those efforts will continue. At least one telematics provider anticipates digital deployment as early as model year 2005. MBUSA April 18, 2002 *Ex Parte* Presentation at 2-3.

⁶¹ Deere Comments at 9; CNH Reply Comments at 4; Deere Reply Comments at 3; MBUSA Reply Comments at 6; Toyota July 26, 2002 *Ex Parte* Presentation at 2.

migrating to a new technology.⁶³ One commenter states that this is particularly the case for telematics devices deployed in automobiles.⁶⁴ Because the devices are designed for maximum crash survivability, the devices are embedded in a location within the vehicle that makes replacing the devices time-consuming, difficult and costly.⁶⁵ Commenters argue that, in evaluating this issue, we should take into account the useful life of the vehicle, the vehicle development cycle, as well as investments made by owners of vehicles with embedded telematics systems.⁶⁶

19. We conclude that arguments advanced by telematics providers do not constitute sufficient basis to warrant the indefinite imposition of an outdated technical standard. Each of the factors identified by telematics providers --- *e.g.* development cycles of vehicles, choice of hardware and technology platforms⁶⁷ --- are considerations within the control of the individual provider or the original equipment manufacturer with whom it partners. We are not persuaded that the public interest requires us to accommodate the voluntary business decisions of telematics providers to offer services that require wide-area wireless coverage, and to deploy such services using analog technology.

20. However, as in the case of regional carriers, we find that the sunset period we are establishing for other reasons should also mitigate any significant impacts that might affect telematics providers. During the transition period, we anticipate that telematics providers will be able to partner with cellular, PCS, and SMR carriers in order to secure service on the carriers' digital networks. Based on the record, we conclude that within the next five years, the telematics industry will make great strides towards developing multimode devices that will provide interoperability and facilitate roaming on digital networks.⁶⁸ Moreover, the majority of commenters concede that a reasonable transition period would ease any concerns regarding the elimination of the analog requirement.

21. *Modification of the rule is supported by section 332 of the Communications Act.* Another factor supporting the modification of the analog requirement to include a five-year sunset is section 332 of the Act, which directs the Commission to regulate CMRS providers to technical and operational rules comparable to those that apply to providers of substantially similar common carrier services.⁶⁹ Section 332 requires that differences between rules governing competing services should be conformed if we determine that the differences distort competition by placing unequal regulatory burdens on different

⁶³ Deere Comments at 6; CNH Reply Comments at 4-5; Deere Reply Comments at 3.

⁶⁴ MBUSA Reply Comments at 6.

⁶⁵ MBUSA Reply Comments at 8.

⁶⁶ OnStar Comments at 6; EDS Reply Comments at 3, Honda June 24, 2002 *Ex Parte* Presentation at 3; Toyota July 26, 2002 *Ex Parte* Presentation at 2.

⁶⁷ As noted in the text above, telematics providers claim that the development cycle and hardware basis of telematics equipped vehicles prevents users of such services from quickly and easily migrating to a new technology. Deere Comments at 6; CNH Reply Comments at 4-5; Deere Reply Comments at 3.

⁶⁸ See Verizon Reply Comments at 5; MBUSA March 12, 2002 *Ex Parte* Presentation.

⁶⁹ In the Matter of Implementation of Sections 3(N) And 332 of the Communications Act Regulatory Treatment of Mobile Services, GN Docket No. 93-252, *Second Report and Order*, 9 FCC Rcd 1411, para. 13 (1994); In the Matter of Implementation of Sections 3(N) And 332 of the Communications Act -- Regulatory Treatment of Mobile Services, GN Docket No. 93-252 -- Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band PR Docket No. 93-144 -- Amendment of Parts 2 And 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz And 935-940 MHz Band Allotted to the Specialized Mobile Radio Pool, PR Docket No. 89-553, *Third Report and Order*, 9 FCC Rcd 7988, para. 11 (1994).

types of CMRS providers. Over the years, we have shifted towards taking a less regulatory approach in setting out technical standards for the various wireless services. Yet in the case of cellular, while we have afforded carriers the flexibility to deploy new technologies and to offer digital services similar to that offered by PCS providers, cellular carriers must nonetheless continue to provide analog service. The analog standard forces cellular carriers to incur costs and burdens not assumed by other CMRS licensees despite the similarity of services provided by cellular carriers as compared with other providers. Certain commenters agree that the rule requiring cellular carriers to provide analog service does not apply to other types of wireless providers with whom cellular carriers directly compete,⁷⁰ and generally agree that removal of the analog requirement would be consistent with Congress' directive that all CMRS providers be subject to similar regulation in order to facilitate competition in the mobile telephony market.⁷¹ Accordingly, we conclude that section 332 supports removing the analog requirement should we find that there are no circumstances that would warrant treating cellular licensees differently than other wireless carriers.

3. Sunset of the Analog Requirement.

22. In light of the factors discussed *supra*, we conclude that, as a general matter, it is no longer necessary in the public interest to impose the analog compatibility standard to encourage competition or to facilitate nationwide roaming. The immediate elimination of the analog requirement, however, could have a significant impact on some consumers. In the *NPRM*, we noted that, although there are multiple wireless technologies and services available today, certain consumers may not have readily available and accessible economic or technological alternatives to analog service.⁷² Similarly, while the comments suggest that elimination of the analog requirement would not affect the majority of wireless consumers that are already using digital service, we are aware that there are particular classes of consumers, such as those that use emergency-only telephones and persons with hearing disabilities, who do not currently have readily available digital alternatives and would be unduly affected by the immediate elimination of analog service. Accordingly, we conclude that the public interest favors the adoption of a five-year transition prior to elimination of the analog rule.

a. 911-only phones and unsubscribed emergency phones.

23. *Background.* A primary reason for the growth of mobile telephony is the safety and security functions of wireless telephones. Indeed, some consumers acquire wireless telephones that can only make 911 calls. These 911-only consumers can be categorized as: (1) "unsubscribed" consumers of recycled phones that were previously, but are no longer, service-initialized by a wireless carrier, and have been reissued under some type of donor program, such as phones donated to victims of domestic violence, and (2) subscribers of newly manufactured 911-only phones that can only make 911 calls but are incapable of receiving any incoming calls.⁷³ Consumers of the latter are often elderly persons who can not afford basic wireless service or do not want typical wireless service, but desire immediate access to emergency services.⁷⁴ Commenters assert that the number of unsubscribed analog handsets in use ranges

⁷⁰ AT&T Wireless Comments at 2; Cingular Comments at 4.

⁷¹ AT&A Comments at 7; Cingular Comments at 4-5.

⁷² *NPRM* at para. 23.

⁷³ Allan Dixon Comments at 4; Bristol Bay Comments at 4; ICSA/MT Communications Comments at 5-7; Qwest Comments at 3; RCA Comments at 7; Secure Alert Comments at 2-5; Sprint Comments at 4, n. 10; U.S. Cellular Comments at 3; Verizon Comments at 5-6; WCA Comments at 3.

⁷⁴ Secure Alert Comments at 2.

from 20 to 30 million.⁷⁵ Also, in many areas of the United States, digital subscribers with dual-mode handsets roaming outside their home territories are dependent on analog networks to make wireless 911 calls. In light of the public safety uses of mobile telephones, we requested comment on the possible effects that elimination of the analog requirement might have on those using mobile phones for emergency purposes only.⁷⁶

24. *Discussion.* We conclude that a transition period is warranted in order to mitigate possible negative effects to emergency-only consumers that might otherwise occur with an immediate elimination of the analog requirement. While certain commenters argue that the analog service requirement should be maintained indefinitely so that those using unsubscribed or 911-only handsets will be assured of service,⁷⁷ we conclude that a transition period is needed to provide for an orderly migration of consumers with analog handsets to digital multimode handsets. Also, in some geographic areas in which digital coverage is currently insufficient, a transition period will allow carriers time to enhance coverage. The transition period will allow for the continued expansion of digital networks and further conversion of analog networks to digital, thereby providing for a more extensive network of digital technologies. During the transition period, service providers can conduct customer outreach in order to educate consumers that analog services may be discontinued on a certain date, thereby providing emergency-only consumers with time to migrate from analog to digital handsets.

25. We note that, although there is currently a sizable number of unsubscribed analog and 911-only consumers,⁷⁸ it can be assumed that the total number of such users will decline in the future, as digital networks expand and carriers migrate current analog customers to digital services. Accordingly, we disagree with commenters who argue that the analog requirement must be retained indefinitely because consumers that carry unsubscribed handsets cannot afford to trade them in for digital phones, or that programs that recycle used handsets may be discontinued if cellular carriers no longer offer analog service on their networks.⁷⁹ We expect that unsubscribed consumers will have access to digital equipment as digital handsets are being donated as well as analog handsets.⁸⁰ It is reasonable to assume that the number of digital handsets will increase over time because the number of digital subscribers is approximately three times that of analog subscribers,⁸¹ and a consumer uses a handset on average for 1.5 to 2.5 years before acquiring a new one. Because handsets are recycled every 18 to 30 months, we conclude that a transition period should ensure that recipients of donated mobile telephones have access

⁷⁵ WCA Comments at 3; RCA Comments at 7 (estimates that there are 20 million unsubscribed analog handsets); ICSA/MT Communications Comments at 6 (estimates that there are 30 million unsubscribed analog handsets); Secure Alert Comments at 4 (estimates that there are 24 million unsubscribed analog handsets).

⁷⁶ *NPRM* at para. 29.

⁷⁷ AARP Comments at 1; Allan Dixon Comments at 4; ICSA/MT Communications Comments at 6-7; NAD Comments at 10; Secure Alert Comments at 4-5; WCA Comments at 3-4.

⁷⁸ See *supra* note 75.

⁷⁹ AARP Comments at 1; Secure Alert Comments at 4-5; WCA Comments at 4 (proposing that carriers that discontinue analog service must replace all existing analog phones in their licensed service area).

⁸⁰ Verizon estimates that, since 1995, approximately 30 percent of handsets donated under the Verizon program have been digital. Verizon Comments at 5-6.

⁸¹ There are approximately 137 million wireless subscribers. See <<http://www.wow-com.com>> (last visited August 12, 2002).

to digital equipment. Accordingly, we conclude that a five-year sunset period should resolve any issues faced by unsubscribers or 911-only subscribers.⁸²

b. Accessibility issues.

26. *Background.* When we sought comment in the *NPRM* on the possible effects of the elimination of the analog requirement, we noted that we were particularly interested in the possible impacts on persons with hearing disabilities,⁸³ and stated that we will not take any action that would undermine service to persons with disabilities.⁸⁴ We have for some time been cognizant of the concerns held by persons with hearing disabilities regarding their ability to access wireless technologies and services. Although most consumers have a variety of mobile technologies and services available to them, persons with hearing disabilities desiring to use wireless devices must currently rely on analog service or the small number of digital phones that are currently compatible with hearing aids --- a compatibility that is limited to certain types of hearing aids.⁸⁵ Unlike analog handsets, digital technologies have been shown to cause interference to hearing aids and cochlear implants. For the most part, analog wireless equipment does not pose interference problems for hearing aid wearers because they transmit signals at a steady rate; no extraneous audible noise is produced because these signals are not demodulated by the handset and in turn amplified by the hearing aid. Unlike analog equipment, however, digital wireless telephones do not transmit electromagnetic energy at a steady rate, and the fluctuations can cause disruptive interference to hearing aids or cochlear implants. The hearing aid demodulates the pattern of pulsing as clicks, pings or

⁸² A number of local governmental entities have submitted *ex parte* filings regarding the impact that removal of the analog requirement could have on highway call boxes. Regional California agencies, generally known as Service Authority for Freeways and Expressways (SAFEs), are responsible for the installation and operation of motorist-aid call boxes along highways, state routes and county roads. These agencies state that they have installed callboxes that use analog equipment and argue that switching from analog service to digital would be financially burdensome. They request that, in the event the Commission removes the analog requirement, that a transition to digital be conducted in a manner that enables SAFEs to maintain the callbox program. See Capitol Valley Regional Service Authority for Freeways and Expressways July 30, 2002 *Ex Parte* Letter; Metropolitan Transportation Commission Service Authority for Freeways and Expressways July 30, 2002 *Ex Parte* Letter; Los Angeles County Service Authority for Freeway Emergencies July 12, 2002 *Ex Parte* Letter; Monterey County Service Authority for Freeways and Expressways July 5, 2002 *Ex Parte* Letter; Santa Cruz County Regional Transportation Commission July 18, 2002 *Ex Parte* Letter; Santa Cruz County Regional Transportation Commission July 23, 2002 *Ex Parte* Letter; San Diego Service Authority for Freeway Emergencies July 29, 2002 *Ex Parte* Letter; Riverside County Transportation Commission August 1, 2002 *Ex Parte* Letter; San Bernardino Associated Governments July 16, 2002 *Ex Parte* Letter; Glenn County Transportation Commission July 18, 2002 *Ex Parte* Letter; Santa Barbara County Association of Governments July 22, 2002 *Ex Parte* Letter. While we note that callboxes are not mobile devices by definition, and thus service to such equipment is not covered by the analog requirement, we anticipate that the sunset period adopted in this proceeding will nonetheless provide such agencies with a reasonable length of time to transition their callboxes to digital technology if necessary.

⁸³ *NPRM* at para. 30.

⁸⁴ *Id.*

⁸⁵ Some equipment manufacturers have developed neck loop devices that make it possible for some people who have a telecoil (T-coil) in their hearing aids to use digital mobile phones. The neck loop is connected to the head phones jack of the mobile phone and transmits analog signals to certain T-coil equipped hearing aids. The T-coil turns off the hearing aid's microphone and changes the analog signals into sounds, eliminating noise and interference. Unlike digital handsets, however, some analog handsets have T-coils installed that are compatible with some T-coil equipped hearing aids, obviating the need for the separate neck loop. But not all hearing aid wearers have T-coil equipped hearing aids, and these people are unable to use neck loops with digital mobile phones or T-coil equipped analog phones.

buzzing. Currently, nearly all digital equipment can cause some interference to many types of hearing aids and cochlear implants.

27. We recognize that telecommunications technology has become an essential component of everyday life, and that those without ready access are at a disadvantage in areas such as emergency services as well as routine daily activities. Accordingly, we have in recent years taken steps to address these concerns by implementing a number of proceedings aimed at ensuring that persons with disabilities have access to wireless services. For example, we conducted proceedings that set out deadlines for digital equipment to be compatible with text telephone, or TTY, devices.⁸⁶ With respect to telephone handsets, the Hearing Aid Compatibility Act of 1988 (HAC Act) requires almost all new 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,” but provides an exemption for certain categories of phones including those used with CMRS and private mobile radio services (or PMRS).⁸⁷ In November 2001, we initiated a proceeding to examine whether this exemption continues to remain necessary, or whether the statutory criteria for revocation or limitation of the exemption have been satisfied.⁸⁸ We also adopted a 1999 *Report and Order*⁸⁹ implementing section 255 of the Communications Act, which requires that manufacturers and telecommunications services providers ensure that telecommunications equipment and telecommunications services are accessible to persons with disabilities, if readily achievable.⁹⁰ In light of prior measures taken to facilitate access to wireless services, we requested comment on whether existing provisions will sufficiently address any accessibility problems for persons with hearing disabilities in the event we remove the analog requirement.⁹¹

28. *Discussion.* Our review of the record leads us to conclude that immediately removing the requirement that cellular carriers operate consistent with the analog compatibility standard would indeed

⁸⁶ In our *E-911 First Report and Order*, we mandated that wireless carriers must be able to transmit 911 calls from individuals with hearing disabilities through means other than mobile radio handsets, such as through the use of TTY devices. See In the Matter of Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, *Report and Order and Further Notice of Proposed Rulemaking*, 11 FCC Rcd 18676, 18701 (1996) (*E911 First Report and Order*). In light of progress made towards TTY solutions, we set June 30, 2002 as the deadline by which wireless services providers must be capable of transmitting digital 911 calls using TTY devices. See In the Matter of Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, *Fourth Report and Order*, 15 FCC Rcd 25216, 25217 at para. 3 (2000). While this capability became available in most areas of the country beginning July 1, 2002, we note that the Wireless Telecommunications Bureau recently granted certain petitions for temporary waiver of the June 30, 2002 deadline filed by certain carriers experiencing difficulty in implementing digital TTY-capability due in large part to unexpected vendor delays. See In the Matter of Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, *Order*, DA 02-1540 (WTB rel. June 28, 2002).

⁸⁷ 47 U.S.C. § 610(b)(1); see 47 C.F.R. § 68.4(a). The rules implementing the provisions of the HAC Act are set out in Part 68 of our rules.

⁸⁸ See In the Matter of Section 68.4(a) of the Commission’s Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, *Notice of Proposed Rulemaking*, 16 FCC Rcd 20558 (2001) (*HAC Proceeding*).

⁸⁹ In the Matter of Implementation of Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1996, Access to Telecommunications Service, Telecommunications Equipment and Customer Premises Equipment by Persons with Disabilities, WT Docket No. 96-198, *Report and Order and Further Notice of Inquiry*, 16 FCC Rcd 6417 (1999).

⁹⁰ 47 U.S.C. § 255(c). Specifically, section 255(c) of the Act requires that “[a] provider of telecommunications service shall ensure that the service is accessible to and usable by individuals with disabilities, if readily achievable.”

⁹¹ *APRM* at para. 30.

be detrimental to persons with hearing disabilities. We find that, given the scarcity of digital devices that may be used with hearing aids, persons with hearing disabilities could be left without access to mobile telephony services in the event that the analog requirement is removed immediately and carriers are able to shut down their analog facilities. While we anticipate that market mechanisms will, for the most part, ensure access to digital services for most consumers, we agree with commenters who argue that the same economic incentives do not exist that would ensure that persons with hearing disabilities have adequate access to digital wireless service because they account for only a small percentage of mobile telephony users.⁹² Because persons with hearing disabilities must continue to rely on analog technology for access to wireless service at this time, we find that the record supports implementing a transition period during which time we anticipate that digital solutions to the hearing aid-compatibility problem will be developed and made widely available.

29 In order to ensure that analog service remains available to persons with hearing disabilities while industry seeks to develop accessible digital technologies, we provide for a five-year transition period before the elimination of the analog requirement. Certain commenters assert that a transition period of five years is insufficient⁹³ and argue that the analog requirement cannot be sunset until digital technologies are fully compatible with hearing aid devices.⁹⁴ We conclude that a five-year period provides a reasonable time frame for the development of solutions to hearing aid-compatibility issues. The progress made in developing digital TTY solutions leads us to determine that the industry will also likely be able to develop digital solutions for telephones within a five-year period. Moreover, mandating a shorter timeframe may result in persons with hearing disabilities gaining access to digital handsets more quickly than if we set out a longer period. Because we are reserving the right to extend the sunset period in the event that solutions to hearing aid-compatibility problems are unsatisfactory,⁹⁵ the industry has an incentive to develop digital solutions to the access problem. Accordingly, we conclude that a five-year period provides the wireless industry with a reasonable time frame during which they may continue developing solutions to the problem of hearing aid-compatibility while ensuring that persons with hearing disabilities continue to have access to mobile telephony.

30 We note that we are establishing a transition period to safeguard the ability of persons with hearing disabilities to access mobile telephony services even though carriers are otherwise obligated to ensure that telecommunications service is accessible to persons with disabilities. As noted, section 255 of the Act requires that “[a] provider of telecommunications service shall ensure that the service is accessible to and usable by individuals with disabilities, if readily achievable.”⁹⁶ In the *NPRM*, we observed that were we to eliminate the analog requirement, section 255 would still require that carriers to make digital services compatible with hearing aid devices.⁹⁷ We requested comment on the sufficiency of section 255 of the Act in addressing accessibility problems for persons with disabilities in the event that we eliminated the analog requirement. Although a few commenters argue that mobile telephony providers and manufacturers can circumvent the provisions of section 255,⁹⁸ we conclude that section 255 requires providers to ensure that their services remain accessible to persons with hearing disabilities. However, the independent requirements of section 255 notwithstanding, we find that it is appropriate to

⁹² NAD Reply Comments at 7-8.

⁹³ Telecommunications for the Deaf Reply Comments at 8.

⁹⁴ *E.g.* NAD Reply Comments at 12-13; SHHH Reply Comments at 3-4.

⁹⁵ *See supra* at para. 27.

⁹⁶ *See* 47 U.S.C. § 255(c).

⁹⁷ *NPRM* at para. 30.

⁹⁸ *See* SHHH Comments at 6; Telecommunications for the Deaf Reply Comments at 6-7.

also establish a five-year transition period in order to address the particular current problem of hearing aid-compatibility with digital handsets, and ensure access to mobile telephony service for persons with hearing disabilities.

31. *Reporting requirement.* In order to monitor the progress made by the wireless and hearing aid industries in developing solutions, and to ensure that wireless services are continuing to be made available to persons with hearing disabilities as well as 911-only consumers, we will require that, no later than the third and fourth anniversary of the effective date of this order, certain CMRS licensees and other entities file reports with the Commission. The reports will be required from all cellular licensees providing nationwide coverage. In addition, the reports must inform the Commission whether each carrier intends to discontinue analog service, identify the markets in which it plans to discontinue analog service, and for how long it plans to continue analog service and in which markets. If a carrier intends to discontinue analog service, the carrier must certify and provide information in its report that there are hearing aid-compatible digital devices available to persons with hearing disabilities at the time of filing, or, if no such equipment is available at the time of filing, describe the extent to which, by the end of the fifth year, digital equipment will be available to persons with hearing disabilities in market(s) where the carrier intends to discontinue analog service. Carriers may also be required to show in their reports that they are in compliance with the provisions of section 255 of the Act, as well as with any obligations required of them as a result of our *HAC Proceeding*. Such carriers, in their reports, may also be required to describe their plan for informing its subscribers, the public and other interested parties regarding plans to discontinue analog service. Finally, other interested parties will be able to file reports or comments as appropriate, and we encourage joint efforts (e.g., the TTY forum).⁹⁹

32. We will make these Reports publicly available to all interested parties who may file supplemental information as appropriate to ensure that the Commission has a full record. The information contained in the reports will be used to determine whether or not the Commission will initiate a proceeding to extend the sunset date or take appropriate enforcement action under section 255. As noted, we are examining in the *HAC Proceeding* whether CMRS and PMRS providers should continue to be exempted from the HAC Act's requirement that telephones "must 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."¹⁰⁰ Our action here does not preclude the Commission from independently requiring carriers to comply with HAC requirements, even during the 5-year transition period, in the event that the Commission determines in the *HAC Proceeding* that the statutory criteria for revocation or limitation of the exemption have been satisfied.¹⁰¹ Finally, the Wireless Telecommunications Bureau, in conjunction with the Consumer & Governmental Affairs Bureau, will work closely with the Food and Drug Administration and the Commission's Office of Engineering and Technology in the development of standards for hearing aid design that alleviate interference.

33. We note that, although we are establishing the date upon which we will no longer require carriers to provide cellular service consistent with AMPS specifications, the removal of the requirement

⁹⁹ The TTY Forum, which was formed in 1997, is an organization comprised of wireless carriers, wireless handset manufacturers, wireless infrastructure manufacturers, TTY manufacturers, emergency and relay service providers, and consumer groups representing people with hearing disabilities.

¹⁰⁰ See para. 27.

¹⁰¹ Specifically, the HAC Act directs us to revoke or otherwise limit the exemption if we find that 1) revocation or limitation of the exemption is in the public interest; 2) continuation of the exemption would have an adverse effect on persons with hearing disabilities; 3) compliance with the HAC Act is technically feasible; and 4) compliance with the HAC Act would not increase costs to such an extent that the telephones could not be successfully marketed. 47 C.F.R. § 610(b)(2)(C).

does not preclude carriers from continuing to provide analog service. Indeed, we do not anticipate that, as a general matter, carriers will immediately discontinue such service as it is reasonable to conclude that analog service will continue to be available as long as consumers demand it.

C. Electronic Serial Number Rule.

34. *Background.* In the *NPRM*, we proposed to remove section 22.919 of our rules, which sets forth electronic serial number (ESN) design requirements for manufacturers of cellular telephones.¹⁰² The purpose of this rule was to address the problem of cellular “cloning” fraud that was prevalent in the mid-1990s.¹⁰³ Over the years, however, other measures have developed to combat cloning fraud. For example, Congress enacted the Wireless Telephone Protection Act of 1998 to address fraudulent and unauthorized use of wireless telecommunications services.¹⁰⁵ Further, the cellular industry has developed a more secure access protocol, known as authentication.¹⁰⁶ Other anti-fraud countermeasures developed by the industry include “radio frequency fingerprinting,” which identifies a mobile handset by its unique radio transmission characteristics,¹⁰⁷ as well as “call profiling,” which enables carriers to monitor for unusual, sudden changes in calling patterns.¹⁰⁸

¹⁰² *NPRM* at para. 36. Section 22.919 imposes a number of requirements. Each cellular mobile unit must have a unique factory-set ESN that is not “alterable, transferable, removable or otherwise able to be manipulated.” 47 C.F.R. § 22.919(a), (c). Further, the equipment must be designed in such a way that any attempt to remove, tamper with, or change the ESN chip and other related components will render the mobile transmitter inoperative. This is referred to as a “hardened ESN.” 47 C.F.R. § 22.919(c). Section 22.919 also specifies certain physical design and firmware programming requirements.

¹⁰³ Cloning occurs when a third party copies onto a second handset the three identifying numbers of a legitimate subscriber’s handset --- the internally stored telephone identification number (MIN), system identification number (SID) and the unique factory-set ESN. Because early cellular systems relied solely on these three numbers, which were transmitted over the airwaves, to identify a particular cellular telephone for access and billing purposes, copying these three numbers allowed the third party to use the cloned telephone to make calls that would later be billed to the legitimate subscriber.

¹⁰⁵ The Wireless Telephone Protection Act of 1998 provides, *inter alia*, that an individual has committed fraud if he or she “knowingly and with intent to defraud uses, produces, traffics in, has control or custody of, or possesses a telecommunications instrument that has been modified or altered to obtain unauthorized use of telecommunications services,” or “knowingly uses, produces, traffics in, has control or custody of, or possesses hardware or software, knowing it has been configured to insert or modify telecommunication identifying information associated with or contained in a telecommunications instrument so that such instrument may be used to obtain telecommunications service without authorization.” 18 U.S.C.A. § 1029(a)(7), (a)(9).

¹⁰⁶ Authentication works by sending a series of encoded passwords over the airwaves between the cellular telephone and the cellular network to validate a customer each time a call is placed or received. With authentication, the key to use authorization is not transmitted over the airwaves and accordingly can not be intercepted by third parties.

¹⁰⁷ This helps to prevent cloning because the cloned mobile equipment can not duplicate the legal phone’s radio-frequency fingerprint.

¹⁰⁸ See *NPRM* at para. 33.

35. Accordingly, we tentatively concluded that the original basis for setting out the hardened ESN design requirements in Part 22 is no longer compelling given federal legislation and use of advanced fraud control technologies.¹⁰⁹ Further, because section 22.919 requires that the ESN host component not be transferable or removable, we noted in the *NPRM* that the ESN rule by definition precludes the use of “smart card” subscriber identity modules¹¹⁰ in AMPS-compatible cellular telephones. We stated that this could be counterproductive in controlling fraud, as there is evidence that smart cards arguably may provide better protection from tampering than the “hardened ESN” components required by the ESN rule.¹¹¹ We indicated that, as a general rule, we prefer that market forces determine technical standards and do not mandate hardware design requirements unless necessary in the public interest. Moreover, we observed that we do not impose similar requirements on other CMRS providers.¹¹²

36. *Discussion.* After reviewing the original purpose of the rule, the anti-fraud techniques that have been developed since the adoption of the rule, as well as the comments in this proceeding, we conclude that the ESN rule is no longer necessary in the public interest and adopt our proposal to eliminate section 22.919. The concerns that led to the adoption of this rule have been addressed and no longer require retention of this rule. We find that it is unnecessary to continue to mandate detailed hardware design requirements given the success the wireless industry has had in developing other more effective anti-fraud measures. A number of commenters support the proposal to remove section 22.919,¹¹³ arguing that the rule prevents carriers from deploying advanced technologies such as smart cards.¹¹⁴

37. As we stated in the *NPRM*, our general policy is to allow market forces to determine technical standards wherever possible, and, accordingly, we refrain from adopting rules mandating detailed hardware design requirements, unless doing so is necessary to achieve a specific public interest goal. In this case, the original purpose was to assist in curtailing the cloning fraud that, in the mid-1990s was costing the cellular industry as a whole hundreds of millions of dollars per year in appropriated service.¹¹⁵ The advent of new anti-fraud measures that have emerged as the industry developed from analog to digital makes it unnecessary for us to continue to mandate technical standards for anti-fraud purposes. As CTIA observes, “The wireless industry . . . is capable of protecting its customers and itself against fraud. These advancements in fraud detection and prevention, the steady transition to digital wireless, and robust competition have all led to a significant drop in the cost of wireless service, and thus obviated the need for Commission-imposed ESN security standards.”¹¹⁶ Moreover, as noted, anti-fraud legislation was enacted to prohibit individuals from manipulating telephones or other devices (*e.g.* hardware, software, or scanning receivers) in order to obtain telecommunications service without

¹⁰⁹ *Id.* at para. 36.

¹¹⁰ Smart card subscriber identity modules are small, postage stamp-sized cards containing an embedded electronic chip that is programmed with the subscriber’s identification, billing and preference information. Generally tamper-proof, smart cards can be switched from one mobile telephone to another, making it easy to change from one system to another. Smart card technology protects a subscriber’s identity and preference from theft or disclosure, yet is easily transferable from one telephone to another.

¹¹¹ *NPRM* at para. 36.

¹¹² *Id.*

¹¹³ Cingular Comments at 16-17; CTIA Comments at 12-14; Qualcomm Comments at 3-5.

¹¹⁴ Ericsson Comments at 11-12; Qualcomm Comments at 3-4; TIA Comments at 5-6.

¹¹⁵ CTIA notes that cloning has resulted in as much as \$600 million dollars per year in lost revenue. CTIA Comments at 12.

¹¹⁶ CTIA Comments at 14.

authorization. Accordingly, it is not necessary to retain section 22.919 as a preventative measure against cellular cloning fraud. Pursuant to our obligation to repeal any regulation determined to be no longer in the public interest, we eliminate section 22.919.

38. Two commenters, CenturyTel and Verizon, argue that removing the ESN rule would be disruptive to other aspects of cellular service.¹¹⁷ CenturyTel believes that elimination of this rule section would require them to replace their billing system.¹¹⁸ While we understand that certain providers may be using ESNs for tracking and billing purposes, we note that elimination of the rule does not require carriers to cease using ESNs. In fact, the general specification for a unique ESN is already contained in the current industry standard for AMPS, and we believe that it is unnecessary to duplicate this in our rules.¹¹⁹ We also note that the rule was not adopted in order to facilitate uses such as billing and equipment validation by carriers, nor does the record in this proceeding support retaining this requirement solely for such purposes. We are not persuaded that carriers will be prejudiced with respect to billing and other cellular functions to such an extent that it would be necessary to retain the ESN rule.¹²⁰

39. Finally, we note that the Independent Cellular Service Association (“ICSA”), which has sought elimination of the ESN rule for several years, supports our current proposal because it believes that it should be legal to clone cellular telephones (in particular, as a small business activity) for customers who are already legitimate cellular subscribers, as opposed to those who are not subscribers.¹²¹ In the absence of section 22.919, cloning of phones in this manner is no longer a violation of the Commission’s rules. The issue of cellular cloning by a legitimate cellular subscriber would become a contractual issue, and would be judged according to the terms of the applicable service contract.¹²²

¹¹⁷ CenturyTel Comments at 5; Verizon Comments at 17-18.

¹¹⁸ CenturyTel Comments at 5.

¹¹⁹ ANSI/TIA/EIA-553-A-1999, section 2.3.2.

¹²⁰ We do not anticipate that there will be immediate changes to equipment; we conclude that carriers will have sufficient opportunity to modify their administrative systems if necessary. With regard to the impact of our determination on other cellular functions, for example, we do not intend our treatment here to be dispositive of pending consideration of possible application of ESNs for public safety purposes. See Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Non-initialized Phones, CC Docket No. 94-102, RM-8143, *Report and Order*, 17 FCC Rcd 8481 (2002), *recon. pending*; “Wireless Telecommunications Bureau Seeks Comment on Petition for Reconsideration Regarding the Commission’s Rules on Non-initialized Phones and on Filing Request for Stay,” *Public Notice*, 67 Fed. Reg. 46909 (July 17, 2002).

¹²¹ ICSA/MT Communications Comments at 3-6; ICSA/MT Communications Reply Comments at 5-8. Such cloning makes it technically possible for these subscribers to use one or more additional cellular telephones (which ICSA refers to as “extension cellular telephones”) on a cellular system without the carrier’s knowledge, and thereby avoid being billed monthly fees (other than per-minute usage charges) that the carrier normally charges for additional cellular telephones. ICSA ascribes various benefits to the use by legitimate subscribers of cloned telephones, including the ability to have multiple cellular telephones with the same telephone number (for example a powerful vehicular telephone and a hand-held portable telephone). There are also significant operational limitations, however, that make the claimed benefits questionable. For example, the legitimate cellular telephone and the cloned cellular telephone generally cannot be turned on at the same time without triggering the carrier’s fraud-detection systems, which could result in denial of service to both telephones.

¹²² When we established the ESN rule in the *Part 22 Rewrite*, we stated that the altering of cellular phones to “emulate” ESNs without receiving the permission of the relevant cellular licensee should not be permitted because: 1) the simultaneous use of cellular telephones fraudulently emitting the same ESN without the licensee’s permission could cause problems in some cellular systems such as erroneous tracking or billing; 2) the use of such phones without the licensee’s permission could deprive cellular carriers of monthly per telephone revenues to which they are

D. Channelization Requirements.

40. *Background.* Section 22.905 identifies the part of the electromagnetic spectrum that is allocated to the Cellular Radiotelephone Service and divides it into two blocks, labeled A and B. It also sets forth a channelization plan that sub-divides each block into 416 paired 30 kHz channels and designates 21 of these paired channels as control channels. This channelization plan is the basic scheme for the original analog cellular technology. Alternative technologies, including the principal digital technologies many cellular licensees have overlaid on top of their analog networks, are exempt from this channelization plan rule.¹²³ We proposed in the *NPRM* to remove the channelization plan for compatible AMPS cellular systems from section 22.905 of our rules, and to rephrase the remainder of that section such that it specifies only the portions of the electromagnetic spectrum allocated to the Cellular Radiotelephone Service and which frequency ranges make up the two initial blocks.¹²⁴ We reasoned that the analog technology to which the channelization plan is applicable is well-established nationwide, and thus removing the plan would not pose any risk of decreased cellular technical compatibility.

41. *Discussion.* A majority of the commenters addressing this issue support our proposal.¹²⁵ For example, CTIA notes that, even in the absence of a mandatory channel plan, “carriers can be expected to continue to deploy analog technology that is interoperable with other analog systems notwithstanding the absence of a Commission rule mandating such interoperability.”¹²⁶ Verizon, however, opposes the elimination of the channelization plan rule prior to the elimination of the analog service requirement. It believes that some cellular carriers could begin providing analog service using a different and incompatible analog channel plan, which would leave some subscribers without roamer service.¹²⁷ CenturyTel also opposes removal of the channelization plan because it believes that it provides a legal basis for “frequency protection” from adjacent systems using digital technologies.

42. Based on the record before us, however, we find that it is unnecessary to retain the AMPS channelization plan in the rules. With respect to Verizon’s concern, given the number of standard analog base stations and handsets in use today and the efficiencies to be gained by implementing alternative digital (not analog) technologies, it appears highly unlikely that any carrier would have the incentive to deploy an alternative analog technology during the five-year sunset adopted in this proceeding. Although Verizon warns of incompatible analog deployment, it provides no rationale explaining why it believes any carrier might take this approach. Further, carriers will continue to be bound by existing roaming agreements for at least some portion of the sunset, again making it highly unlikely that there would be any incentive to deploy an alternative analog technology. With respect to CenturyTel’s concern, we note that the channelization plan in the rule was not established for the purpose of “protecting frequencies” and does not serve that function today. In fact, different rules, sections 22.907 and 22.917, limit emissions and require cellular licensees to coordinate channel use with adjacent systems in order to maximize efficient utilization of the cellular spectrum.¹²⁸ Finally, we note that the AMPS channelization plan is the

entitled, and 3) such altered phones not authorized by the carrier, would not fall within the licensee’s blanket license. *Part 22 Rewrite*, 9 FCC Red at para. 60.

¹²³ 47 C.F.R. § 22.901(d)(2). Of the technologies commonly used to provide cellular service, TDMA uses the same spacing and channel center frequencies as are specified for the original analog technology, whereas CDMA uses an entirely different channel plan.

¹²⁴ *NPRM* at para. 38.

¹²⁵ Ericsson Comments at 6; Cingular Comments at 17; CTIA Comments at 15; TIA Comments at 6.

¹²⁶ CTIA Comments at 15.

¹²⁷ Verizon Comments at 19; Verizon Reply Comments at 10.

¹²⁸ 47 C.F.R. §§ 22.907 and 22.917.

current industry standard for AMPS and will presumably continue to provide guidance to licensees through the sunset of the analog requirement.¹²⁹ Accordingly, we adopt our proposal to remove the channelization plan from our rules as no longer necessary in the public interest in light of current market conditions.

E. Modulation Requirements and In-band Emissions Limitations.

43. *Background.* In the *NPRM*, we sought comment on our proposal to modify section 22.915 of our rules, which sets out a number of technical specifications for, *inter alia*, the performance of audio filter and deviation limiter circuitry in analog cellular telephones, and adjustment of the modulation levels in analog cellular telephones.¹³⁰ As noted, we have sought to avoid specifying the particular technology to be used or to specify technical details, such as modulation parameters, of any given technology in our rules with respect to PCS and other similar market-based services.¹³¹ With limited exception, we instead have given providers in these services the latitude to determine for themselves the most appropriate technology that allows them to operate most effectively.¹³² In contrast, our cellular service rules, including section 22.915, specify numerous technical parameters. Accordingly, consistent with our less regulatory approach with PCS and other CMRS, as well as our proposal to eliminate the analog requirement, we proposed to eliminate the provision set out in section 22.915 requiring cellular systems to have the capability to provide service using the modulation types specified in OET 53 (analog compatibility standard).¹³³ We also proposed to remove all rules governing audio filter and deviation limiter performance, modulation levels, and in-band radio frequency emission limits.¹³⁴

44. Further, we also proposed changes to section 22.917 of our rules, which prescribes emission masks limiting both in-band and out-of-band radio frequency emissions.¹³⁵ As with the proposal to remove the channelization requirements, we proposed changes to the introductory paragraph of section 22.917 which requires that analog modulated emissions be transmitted only on the communication channels.¹³⁶ Further, we sought comment regarding how we should define the out-of-band emission limit in order to provide an adequate measure of interference protection to other licensees and service, while also allowing licensees the flexibility to establish a different limit where appropriate.¹³⁷ Specifically, we asked whether licensees should be permitted to operate transmitters on frequencies closer to the edge of their authorized spectrum than full compliance with section 22.917 would normally allow, as long as all potentially affected parties (*i.e.* adjacent licensees) agree to such a provision.¹³⁸ We noted that our Wireless Communications Service (WCS) rules provide this flexibility, and we indicated that cellular and broadband PCS licensees would also benefit from such flexibility.¹³⁹ Accordingly, we sought to conform

¹²⁹ ANSI/TIA/EIA-553-A-1999, section 2.1.1.1.

¹³⁰ 47 C.F.R. § 22.915.

¹³¹ *NPRM* at para. 39.

¹³² *Id.* at para. 40-41.

¹³³ *Id.* at paras. 39-40.

¹³⁴ *Id.* at paras. 39-40.

¹³⁵ 47 C.F.R. § 22.917.

¹³⁶ *NPRM* at para. 41.

¹³⁷ *Id.* at para. 42.

¹³⁸ *Id.*

¹³⁹ *Id.*

the language and provisions of the out-of-band emission limit rules specific to the cellular service and broadband PCS with those applicable to WCS.¹⁴⁰

45. *Discussion.* We amend our rules as proposed in the *NPRM*, with certain modifications. We agree with several commenters that our cellular rules should be more technology-neutral in order to encourage greater deployment of advanced technologies.¹⁴¹ As we are moving toward a less regulatory approach with respect to our service rules and are permitting carriers to deploy technologies that best fit the needs of the market, we adopt our proposal with certain modifications. Further, we conclude that, because we seek to ensure regulatory conformity wherever practical, our rules regarding out-of-band emissions limits for the various services should be similar.

46. Certain commenters, however, object to the specific language we proposed for the out-of-band emission limit measurement rule in section 22.917.¹⁴² These parties point out that implementation of the measurement resolution bandwidth specified in the proposed rule would have the effect of imposing a stricter out-of-band emission limit than that which currently applies. Specifically, the commenters object to the proposed rule's specification that compliance with the out-of-band emissions limit should be measured by using instrumentation employing a resolution bandwidth of 1 MHz or more

¹⁴⁰ *Id.* In the *NPRM*, we proposed that section 22.917 be modified to:

§ 22.917 Emission limitations for cellular equipment.

The rules in this section govern the spectral characteristics of emissions in the Cellular Radiotelephone Service.

(a) *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

(b) *Measurement procedure.* Compliance with the limitation in paragraph (a) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or more. However, for measurements within 1 MHz of the center of the main emission bandwidth, a resolution bandwidth of not less than 1% of the main emission bandwidth may be employed. For the purpose of this section, the main emission bandwidth is the continuous width of the signal outside of which all emissions are attenuated by at least 26 dB below the transmitting power. Either peak or average measurements may be used, provided that both the emissions and the reference transmitter power are measured the same way. When measuring emissions, the transmitter must be set to operate as close to each of the upper and lower channel block edges as the design permits for normal operation.

(c) *Alternative out of band emission limit.* Licensees in this service may establish an alternative out of band emission limit to be used at specified band edge(s) in specified geographical areas, in lieu of that set forth in this section, pursuant to a private contractual arrangement of all affected licensees and applicants. In this event, each party to such contract shall maintain a copy of the contract in their station files and disclose it to prospective assignees or transferees and, upon request, to the FCC.

(d) *Interference caused by out of band emissions.* If any emission from a transmitter operating in this service results in interference to users of another radio service, the FCC may require a greater attenuation of that emission than specified in this section."

¹⁴¹ TIA Comments at 14-15; TIA Comments at 4 (advocating proposal to remove in-band emissions limits); Western Wireless (supporting proposal to remove rules relating to 22.915). One commenter states that section 22.915 should be eliminated because the rule's requirements are specific to the AMPS analog compatibility standard, and, as such, are contrary to the goal of allowing carriers to implement the technologies of their choice, and stifles the development of technologically advanced systems. Ericsson Comments at 7.

¹⁴² Cingular Comments at 10-14; Ericsson Comments at 7-11; Qualcomm Comments at 6-8; TIA Comments at 6-10; Sprint Reply Comments at 13-14.

from the center of the band.¹⁴³ We agree that we should modify the proposed language. In proposing the rule change, we sought only to harmonize certain procedures in the WCS, PCS and cellular services, and did not intend to make the out-of-band emission limits more restrictive. Several commenters, such as Ericsson, submitted alternative language that more accurately reflects our intended goal.¹⁴⁴ Ericsson recommended language to permit the use of narrower resolution bandwidths and also noted that International Telecommunications Union - Radiocommunications Sector ("ITU-R") Recommendation SM.329 specifies that the measurement bandwidth is "100 kHz for emissions below 1 GHz" and "1 MHz for emissions above 1 GHz."¹⁴⁵ Accordingly, Ericsson recommended that the Commission amend section 22.917 to permit measurement instrumentation employing a resolution bandwidth of 100 kHz or greater.¹⁴⁶ Ericsson also recommended modification of the measurement bandwidth aspects in both sections 22.917 and 24.238 "to explicitly permit the use of integration to improve measurement accuracy."¹⁴⁷ Ericsson proposed modifying these sections to state that "[a] narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 KHz or 1% of emission bandwidth, as specified)."¹⁴⁸ We modify the proposed rules by substituting the language suggested by Ericsson, which is consistent with recently adopted ITU standards for emissions.¹⁴⁹ We find that sections 22.917(b) and 24.238(b) are no longer necessarily in the public interest as currently written. We therefore modify both sections 22.917(b) and 24.238(b) accordingly.¹⁵⁰

¹⁴³ Cingular Comments at 10-11; Ericsson Comments at 7-11; Qualcomm Comments at 6-8; TIA Comments at 6-10; Sprint Reply Comments at 13-14.

¹⁴⁴ Cingular Comments at 14; Ericsson Comments at 9-10; TIA Comments at 9-10. The modified version permits the use of narrower resolution bandwidths, defines the "out-of-band" region as extending for 1 MHz from the edge of the licensed frequency block, and uses a measurement bandwidth of 1% of emission bandwidth up to the edge of the block.

¹⁴⁵ Ericsson Comments at 9-10. The ITU is an arm of the United Nations responsible for the global oversight and implementation of international telecommunications policy.

¹⁴⁶ *Id.* at 9.

¹⁴⁷ *Id.* at 9-10.

¹⁴⁸ *Id.*

¹⁴⁹ ITU-R SM.329. TIA also suggested similar language that is consistent with ITU recommendations. See TIA Comments at 8-10.

¹⁵⁰ Section 22.917(b) will be modified to read as follows:

(b) *Measurement procedure.* Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Section 24.238(b) will be modified to read as follows:

(b) Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of

F. Vertical Wave Polarization Requirement.

47. *Background.* Section 22.367(a)(4) of the Commission's rules provides that electromagnetic waves radiated by base, mobile, and auxiliary test transmitters in the Cellular Radiotelephone Service must be vertically polarized.¹⁵¹ This rule was originally adopted in order to promote technical compatibility for cellular systems, as well as to reduce the likelihood of interference from cellular transmitters to broadcast television (TV) reception on the upper UHF TV channels.¹⁵² We tentatively concluded in the *NPRM* to relax section 22.367 of our rules to provide that cellular stations no longer be limited as to the polarization of the transmitted waves.¹⁵³ We specifically sought comment on what interference or adverse effects might be caused to mobile, fixed, and broadcast services operating in the cellular service spectrum or adjacent spectrum.¹⁵⁴

48. *Discussion.* We eliminate the vertical polarization requirement because it is no longer necessary in the public interest. The original purposes of the rule no longer warrant this requirement on cellular carriers. We are persuaded that, on the facts before us, relaxation of this requirement will have little effect on interoperability or UHF television channels. As noted in the record, even if a base station's transmissions are vertically polarized, many hand-held mobile units may not benefit from vertical polarization because they are either held in a manner such that their antenna is not vertical, or because the transmission's polarization will be shifted due to reflections from man-made structures.¹⁵⁵ Accordingly, a vertically polarized transmission generally will provide little interoperability benefit to users of hand-held mobile phones. Furthermore, as Cingular notes, cellular base stations transmit on frequencies above 869 MHz (a minimum separation of 63 MHz from the closest UHF television frequency), thereby reducing the likelihood of interference with upper-band UHF television channels.¹⁵⁶ In addition, Cingular notes "mobile units, which are located much closer to television, have been operating with essentially random polarization for years without any evidence of interference to television."¹⁵⁷

49. Most commenters agree with our proposal to remove the vertical polarization requirement due to the technical flexibility that elimination of the rule will provide carriers.¹⁵⁸ One commenter asserts

the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

¹⁵¹ 47 C.F.R. § 22.367(a)(4).

¹⁵² *See Part 22 Rewrite*, 9 FCC Rcd at 6558. We note that alternative services are exempt from the wave polarization requirement pursuant to § 22.901(d)(2).

¹⁵³ *NPRM* at para. 47.

¹⁵⁴ *Id.* We note that during the pendency of this rulemaking the Commercial Wireless Division of the Wireless Telecommunications Bureau granted a limited waiver of the vertical polarization requirement to Cingular. *See* In the Matter of Cingular Wireless LLC Request for Waiver of the Cellular Vertical Wave Polarization Requirement, *Order*, DA 02-558 (rel. Mar. 8, 2002) (*Cingular Waiver*). *See also* Cingular Wireless LLC, Petition for Waiver of Section 22.367 of the Rules Concerning Wave Polarization in the Cellular Radiotelephone Service (filed Nov. 20, 2001) ("Petition for Waiver"); Cingular Wireless LLC, Petition for Waiver of Section 22.367 of the Rules Concerning Wave Polarization in the Cellular Radiotelephone Service, Supplement to Petition for Waiver (filed Jan. 14, 2002) ("Supplement to Petition for Waiver"). We have incorporated the comments filed in response to Cingular's waiver request in the record in this proceeding.

¹⁵⁵ *See* Cingular Petition for Waiver at 7; AT&T Wireless Reply Comments (waiver proceeding) at 3.

¹⁵⁶ Cingular Petition for Waiver at 8.

¹⁵⁷ *Id.*

¹⁵⁸ *See* Qualcomm Comments at 5; Ericsson Comments at 15; Verizon Comments at 29; Cingular Comments at 18-19; Western Wireless Comments at 12; CTIA Comments at 14; TIA Comments at 10.

that such flexibility will reduce multipath fading and improve signal quality in urban areas.¹⁵⁹ Indeed, we anticipate that with this greater flexibility, carriers will be able to design more aesthetically pleasing antenna, reduce the number of antennas necessary at given sites (and, as noted by one commenter, reduce the need for local zoning clearances), enabling collocation of multiple carriers' facilities on a single tower, and reducing site deployment costs.¹⁶⁰ Moreover, we note that other providers of commercial mobile radio service, such as PCS and SMR providers, are not subject to the vertical wave polarization requirement. Allowing cellular carriers to deploy non-vertically polarized antennas will promote regulatory symmetry and flexibility.

50. We are not persuaded by arguments advanced by OnStar that the vertical polarization requirement should not be removed because it could result in reduced RF coverage for its end users, and impair telematics' ability to provide geographic location information for emergency services.¹⁶¹ OnStar expresses concern that relaxing the rule, particularly with respect to rural areas, would "adversely affect[] the delivery of automatic crash notification and other emergency and telematics services."¹⁶² We note that OnStar's concerns are limited to rural areas, where cellular carriers are unlikely to use other than vertical polarization because they have little incentive to do so. In addition, we would expect cellular carriers to make the appropriate technical adjustments to account for varying polarization of transmit and receive antennas, and thereby obtain equivalent analog cellular performance at the boundaries of a rural cell sites when using alternative technologies. We also note that cellular carriers already have the flexibility to reduce coverage or turn off their systems for short or long periods without seeking prior approval of the Commission or notifying customers of their intended action.¹⁶³ Further, telematics carriers may negotiate with cellular carriers and may enter into voluntary contractual relationships to accommodate specific coverage needs. Finally, we believe that the industry and not regulation should dictate technical specifications wherever possible. Given these reasons, we are not persuaded that it is necessary to retain this rule simply to ensure coverage for telematics subscribers attempting calls on the fringe of rural cell sites.

51. Similarly, we are unpersuaded by arguments advanced by U.S. Cellular to retain this requirement in order to facilitate the provision of cellular services to persons onboard aircraft by AirCell and its partners.¹⁶⁴ One of the means AirCell uses to ensure protection of terrestrial cellular systems is by using horizontally-polarized signals. The difference in polarization provides some level of isolation from systems using exclusively vertically polarized transmissions. In waiving the prohibition against airborne cellular operation for AirCell, and its partners, the Bureau did so on a secondary basis with respect to

¹⁵⁹ Ericsson Comments at 15.

¹⁶⁰ Cingular Comments at 19.

¹⁶¹ OnStar Comments to Cingular Waiver Request at 6-7. OnStar utilizes analog cellular technology to provide location-based telematics service offerings, such as automatic crash notification, through systems embedded in vehicles of certain automobile manufacturers. See *Id.* at 1, 4. In this connection, OnStar has attempted to maximize the reception distance for its mobile equipment (which is important in rural areas, for example) based on the assumption that cell sites transmit vertically-polarized signals.

¹⁶² *Id.* at 6.

¹⁶³ Cellular carriers may reduce coverage at a cell site and notify the Commission within 30 days of the change (47 C.F.R. § 1.947); they may discontinue operations for up to 90 days without notifying the Commission (47 C.F.R. § 22.317c) and they may permanently discontinue operations without providing advanced notice to the Commission or customers (47 C.F.R. § 20.15).

¹⁶⁴ *Id.* at 6. U.S. Cellular partners with AirCell, to provide cellular communications to aircraft. AirCell partners provide service to aircraft via a waiver granted by the Wireless Telecommunications Bureau. Under the terms of this waiver, AirCell transmissions are secondary to terrestrial cellular communications.

terrestrial cellular operations.¹⁶⁵ In fact, the Bureau made clear that “AirCell cellular partners may not assert the claim that AirCell’s secondary operations are in any way entitled to protection from the signals of non-participating cellular licensees. As the licensees with primary status in this band, the non-participating cellular licensees would not be under any obligation to alter their operations in any way.”¹⁶⁶ We note that AirCell itself did not comment in this proceeding regarding any potential negative impact of a rule change to its operation. Accordingly, we adopt our proposal to remove the vertical wave polarization requirement.¹⁶⁷

G. Assignment of System Identification Numbers.

52. *Background.* Section 22.941 of the Commission’s rules sets forth the procedure by which the Commission assigns system identification numbers (SIDs) to systems in the Cellular Radiotelephone Service. SIDs are used by cellular systems to identify the home system of a cellular telephone and by cellular telephones to determine their roaming status. SIDs are also used by cellular systems as part of the mobile identification process for billing purposes. Today, SIDs are treated by the Commission as a required element of the cellular system license, *i.e.*, they appear in the official license record. They are first assigned to cellular systems by the Commission during initial license grant; new SIDs may be obtained, if needed, at a later date. The Commission began assigning cellular SIDs in the early 1980s at the request of the Electronics Industry Association (EIA). Although other CMRS providers such as PCS and SMR also have a means to perform the functions described above, these means do not involve the Commission and the identifiers used are not listed on their licenses.

53. In the *NPRM*, we proposed to no longer consider SIDs as a term of the cellular license and to remove the requirement in section 22.941 of our rules that cellular licensees notify the Commission of the use of additional SIDs. We proposed to retain portions of that rule that provide that a cellular system may transmit another system’s SID only if that system consents to such use. Further, we invited proposals under which SID coordination functions would be carried out by an industry organization, rather than by the Commission.

54. *Discussion.* We conclude that it is not necessary in the public interest to retain the current cellular SID rules as set out in section 22.941 of our rules. As we noted in the *NPRM*, there is no public policy reason that SIDs must be a term of cellular authorizations.¹⁶⁸ The comments overwhelmingly support our proposal.¹⁶⁹ The commenters agree that there is no regulatory purpose in

¹⁶⁵ See In the Matter of AirCell, Inc. Petition, Pursuant to Section 7 of the Act, For a Waiver of the Airborne Cellular Rule, or, in the Alternative, for a Declaratory Ruling, *Order*, 14 FCC Rcd 806, at para. 13 (WTB 1998). Section 22.925 of the Commission’s rules provides that cellular phones may not be operated on airborne airplanes. 47 C.F.R. § 22.925. The Wireless Telecommunications Bureau’s decision was later affirmed by the Commission, In the Matter of AirCell, Petition, Pursuant to Section 7 of the Act, For a Waiver of the Airborne Cellular Rule, or, in the Alternative, for a Declaratory Ruling, 15 FCC Rcd 9622 (2000), as well as the United States Court of Appeals, District of Columbia Circuit. *AT&T Wireless Services, Inc., et al. v. FCC*, 270 F.3d 959 (D.C. Cir. 2001), petition for rehearing denied January 29, 2002. The D.C. Circuit Court of Appeals remanded the matter back to the Commission only to the extent that it required the Commission to more fully explain its conclusions regarding interference levels caused by the AirCell system.

¹⁶⁶ *Id.*

¹⁶⁷ We clarify that, because we are now eliminating the requirement entirely, as of the effective date of this action Cingular is no longer bound by the conditional nature of the Cingular Waiver.

¹⁶⁸ See *NPRM* at para. 50.

¹⁶⁹ Qualcomm Comments at 6; Cingular Comments at 19; CenturyTel Comments at 6; CTIA Comments at 15; Verizon Comments at 30.

retaining SIDs as a term of cellular licenses. As Cingular and CTIA point out, there are no SID rules for PCS, SMR, or other CMRS, and this administrative function is carried out successfully within those radio services by the private sector without Commission involvement.¹⁷⁰

55. Further, we agree with Cingular's suggestion that the Commission remove the SID rule in its entirety, providing cellular licensees with the same treatment as PCS and other CMRS carriers.¹⁷¹ Verizon disagrees with this conclusion in part, recommending instead that the Commission retain the "consent for use" portion of the rule (*i.e.* allowing the usage of another system's SID only pursuant to consent), and that the Commission be available to resolve disputes over SIDs.¹⁷² Based on the record before us, however, we see no reason to retain a portion of the rule or intervene when the private sector has shown, as in the case of PCS, for example, that it is capable of coordinating these types of administrative functions on its own. For the reasons stated above, we are eliminating the SID rule in favor of administration of this function by the private sector.

56. In eliminating this rule, we must take certain steps to provide a smooth transition of the SID administration function to the private sector. These steps include identifying a party or parties to administer the function, transitioning the Commission's SID database to the party(s), and publicizing the change to the cellular industry. Therefore, we authorize and direct the Wireless Telecommunications Bureau to take all necessary steps to privatize this function.¹⁷³

H. Determination of Cellular Geographic Service Area.

57. *Proposal.* Section 22.911(a) of our rules sets forth a standardized method for determining the CGSA of a cellular system. A system's CGSA is defined as the geographic area served by the system, within which that system is entitled to protection and adverse effects are recognized for the purpose of determining whether a petitioner has standing.¹⁷⁴ Cellular licensees must provide the Commission with certain technical parameters describing each cell site that makes up the external boundary of its system. These technical parameters (latitude, longitude, height above average terrain, and power), or in some cases, an alternative study, are used to determine the service area boundary (SAB) for each cell site.¹⁷⁵ In this vein, the geographic area within the aggregated SAB contours of a system (excluding areas outside the market boundary) is its CGSA. The method for determining the CGSA uses a general mathematical

¹⁷⁰ Cingular Comments at 19; CTIA Comments at 16.

¹⁷¹ Cingular Comments at 19.

¹⁷² Verizon Comments at 23-24.

¹⁷³ In a somewhat similar situation, we previously delegated authority to the Wireless Telecommunications Bureau to privatize the issuance of maritime mobile service identities (MMSIs). *See* In the Matter of Amendment of Part 0 of the Commission's Rules to Delegate Authority to the Wireless Telecommunications Bureau Concerning Procedures for Assigning Domestic Maritime Mobile Service Identities (MMSI)s, *Order*, 14 FCC Rcd 21517 (1999); "Commission Announces Revision of Procedures for Assigning Maritime Mobile Service Identities," *Public Notice*, 16 FCC Rcd 918 (WTB 2001).

¹⁷⁴ *See* 47 C.F.R. § 22.99.

¹⁷⁵ *See* 47 C.F.R. § 22.911.

formula to calculate distances from the cell site along the cardinal radials¹⁷⁶ to the SAB of each cell in the system.¹⁷⁷

58. Paragraph (b) of section 22.911 provides, however, that any cellular licensee may apply for a modification of its licensed CGSA if it believes that the standard method produces a CGSA that is substantially different from the actual coverage of its system. In adopting this alternative approach for calculating the CGSA, the Commission stated that alternative showings would only be accepted where the change to the CGSA is substantial and justified by unique or unusual circumstances, or where the SAB formula is clearly inapplicable.¹⁷⁸ When preparing to file an application requesting such a modification, the licensee must employ alternative methods (actual measurements, more accurate prediction models or a combination of the two) to determine the location of the median 32 dB μ V/m field strength contour and the distances along cardinal radials to that contour. In describing how these distances to the median 32 dB μ V/m contours must be used to determine the CGSA, paragraphs (b)(1) and (b)(3) of section 22.911 use the term SAB in several places. In our experience, this occasionally leads licensees to believe that they may employ the alternative methods to determine an SAB, as opposed to the CGSA, and then to use that "alternate" SAB in connection with various other rules such as the SAB extension rule¹⁷⁹ or the traffic capture protection rule.¹⁸⁰ In the *NPRM*, we sought to clarify that the SAB of a cell derived using the standard method and the 32 dB μ V/m contour that is used when preparing an alternative CGSA determination are different and not interchangeable.¹⁸¹ Accordingly, we proposed to reword paragraphs (b)(1) and (b)(3) of section 22.911 to replace the word "SAB" with "32 dB μ V/m contour."

59. *Discussion.* We adopt the rule clarification as proposed. In setting out the standard method, we sought to establish a method that would simplify and remove a measure of uncertainty from the process of calculating and plotting CGSAs.¹⁸² We sought to prevent disagreements between parties and the Commission regarding the accuracy of methods used by parties to predict or measure actual coverage for a particular location or terrain.¹⁸³ Although there may be certain situations in which it may not represent actual coverage as closely as other methods, the standard formula provides a simple and

¹⁷⁶ Cardinal radials are eight imaginary straight lines extending radially on the ground from an antenna location, defined according to specified azimuths. See *Id.* at § 22.99 (defining cardinal radials).

¹⁷⁷ An SAB measures the service area of a particular cell site and is a component of the CGSA, which is a composite of the service areas of all of the cells in the particular cellular system. It also is used to evaluate extensions and traffic capture. See *Id.* at §§ 22.911-12.

¹⁷⁸ See In the Matter of Amendment of Part 22 of the Commission's Rules to Provide for Filing and Processing of Applications for Unserved Areas in the Cellular Service and to Modify Other Cellular Rules, *Second Report and Order*, CC Docket No. 90-6, 7 FCC Red 2449 (1992).

¹⁷⁹ 47 C.F.R. § 22.912.

¹⁸⁰ 47 C.F.R. § 22.911(d)(2). In other words, the 32 dB μ V/m contour determined in an alternative CGSA showing is to be used only to calculate a licensee's protected service area. It is not to be used for other purposes such as determining whether a carrier is causing interference or is capturing the subscriber traffic of adjacent systems.

¹⁸¹ The SAB is the boundary calculated using the standard method set out in section 22.911(a), regardless of the actual median field strength along the boundary (as actually measured or predicted by alternative propagation methods). In contrast, the 32 dB μ V/m contour is the locus of points where the predicted or measured median field strength drops to 32 dB μ V/m.

¹⁸² See In the Matter of Amendment of Part 22 of the Commission's Rules to Provide for Filing and Processing of Applications for Unserved Areas in the Cellular Service and to Modify Other Cellular Rules, CC Docket No. 90-6, *Second Report and Order*, 7 FCC Red 2449 (1992).

¹⁸³ *Id.*

consistent method by which to calculate cellular system coverage. Our decision to clarify section 22.911(a) is consistent with the Commission's original intent in limiting the scope of alternate CGSA showings, i.e., to expedite Commission processing of applications, thereby avoiding delays in the provision of cellular service to the public.

60. In their comments, both Cingular and Verizon seek to change the underlying purpose of the alternate CGSA determination method by expanding its scope and effect.¹⁸⁴ Both Cingular and Verizon argue that alternative propagation methods should not be limited to CGSA determinations. They argue that in instances in which an alternative CGSA method has been approved, there is no reason that the carrier should not be able to use the alternative method in order to determine, for example, whether individual SABs are encroaching upon the CGSA of another licensee.¹⁸⁵ Their proposed expansion of section 22.911 could lead to carriers asking the Commission's staff to review alternate showings in situations where one party seeks to place cell sites closer to neighboring systems than would be allowed by our existing rules. While we note that their arguments are not without merit, we conclude that to expand the use of alternative propagation methods to calculate, for example, SAB extensions, runs counter to our goal of setting out a means of determining cellular system coverage that carriers will find to be straightforward and predictable in all circumstances. We do not foreclose, however, the ability of carriers in adjacent markets to agree to the use of an alternative propagation method, or to enter into contract agreements, pursuant to section 22.912, to allow SAB extensions calculated using the standard method into the other carrier's CGSA. We believe that a process that affords carriers flexibility and permits parties to enter into contractual agreements will expedite service to subscribers, in comparison to a more protracted process whereby parties must present and argue the merits of conflicting engineering studies before the Commission. Accordingly, we conclude that such situations can be more quickly settled by inter-carrier negotiations, rather than relying on individual review by the Commission's staff.

I. Service Commencement and Construction Periods.

61. *Background.* In the *NPRM*, we noted that section 22.946 sets out construction requirements relating to the deployment of new cellular systems.¹⁸⁶ This rule section was previously amended in the *Universal Licensing System* proceeding.¹⁸⁷ In implementing the *ULS Report and Order*, however, a table entitled "H-1 - Commencement of Service," was inadvertently deleted from section 22.946. Because certain information in the table was out-dated, we proposed to correct section 22.946 by re-inserting the table, and to reflect updated information. We also proposed to delete the final phrase of section 22.946(b), which prohibits cellular system licensees from "intentionally serv[ing] only roamer

¹⁸⁴ Cingular prefers that we allow alternative propagation methods to be used for evaluating signal extensions into adjacent systems, in lieu of the formula in section 22.911(a). Cingular Comments at 20-21. Verizon argues that when a carrier has determined its CGSA by use of an alternative method, it is "illogical and inconsistent" to require that cell SABs be used for all other purposes. Verizon Reply Comments at 14. Verizon argues that sometimes alternative methods are used to demonstrate that CGSAs should be smaller than predicted by the mathematical formula method, and that in these situations, the alternative method 32 dB μ V/m contour should be used instead of the cell SABs to determine whether there are signal extensions into the adjacent system's CGSA requiring consent.

¹⁸⁵ Cingular Comments at 20-21; Verizon Comments at 24-25.

¹⁸⁶ *NPRM* at para. 55.

¹⁸⁷ See In the Matter of Biennial Regulatory Review--Amendment of Parts 1, 13, 22, 24, 26, 27, 80, 87, 90, 95, 97, and 101 of the Commission's Rules to Facilitate the Development and Use of the Universal Licensing System, WT Docket No. 98-20, *Report and Order*, 13 FCC Rcd 21027 (1998) (*ULS Report and Order*); In the Matter of Biennial Regulatory Review--Amendment of Parts 1, 13, 22, 24, 26, 27, 80, 87, 90, 95, 97, and 101 of the Commission's Rules to Facilitate the Development and Use of the Universal Licensing System, WT Docket No. 98-20, *Memorandum Opinion and Order on Reconsideration*, 14 FCC Rcd 11145 (1999).

stations.¹⁸⁸ We noted that this rule was originally implemented because there are only two cellular carriers in a market, and, at the time the rule was established, no other mobile telephony options were available. If one cellular carrier served only roamers, there would be no competition to the other carrier with respect to subscribers.¹⁸⁹ Given the mobile telephony choices that consumers now have, we tentatively concluded that the rule was no longer necessary.

62. *Discussion.* We conclude that the competitive state of the mobile telephony market makes unnecessary the rule prohibiting carriers from serving only roamer stations. As consumers now have numerous mobile telephony offerings from which to choose, the concern regarding lack of competition no longer exists. Accordingly, we will remove the provision that prohibits service only to roamer stations.

63. We also find that section 22.946 should reflect accurate cellular service construction information. After we adopted the *NPRM*, we issued a *Report and Order* in WT Docket No. 97-112 regarding cellular service in the Gulf of Mexico.¹⁹⁰ In that proceeding, we amended section 22.946 to reflect construction requirements for licensees in the Gulf of Mexico. Because it was necessary to amend section 22.946 to add the Gulf of Mexico construction requirements, we decided to re-insert the inadvertently omitted Table H-1 at that time. We note that section 22.946 was amended to re-insert Table H-1 after the comment period in this proceeding had run, and that no one filed comments opposing that correction to this rule section. Accordingly, it is unnecessary to take further action regarding Table H-1 in rule section 22.946.

J. Incidental Services Rule.

64. *Background.* Adopted in 1983, section 22.323 of the Commission's rules¹⁹¹ authorizes carriers operating in the Part 22 Public Mobile Radio Services to provide other communications services incidental to the primary public mobile service, provided certain conditions are met. In general, section 22.323 requires carriers providing incidental services to protect mobile subscribers by ensuring that: (1) the costs and charges of subscribers not wishing to use incidental services are not increased as a result of the carrier's provision of incidental services to other subscribers; (2) the quality and availability of primary public mobile service does not materially deteriorate; and (3) provision of such incidental services is not inconsistent with the Communications Act of 1934 or the Commission's rules and policies.

65. In the 1996 *CMRS Flex First Report and Order*, we amended our rules to allow CMRS carriers (including all Part 22 licensees) to provide fixed wireless services on a co-primary basis with commercial mobile services.¹⁹² We did not, however, modify section 22.323 as it applies to incidental services offered by Part 22 licensees. We further amended our rules in the *CMRS Flex Second Report and Order* to clarify that fixed wireless services provided pursuant to section 22.901(d) of the

¹⁸⁸ 47 C.F.R. § 22.946(b).

¹⁸⁹ *NPRM* at para. 55.

¹⁹⁰ See In the Matter of Cellular Service and Other Commercial Mobile Radio Services in the Gulf of Mexico, WT Docket No. 97-112, Amendment of Part 22 of the Commission's Rules to Provide for Filing and Processing of Applications for Unserved Areas in the Cellular Service and to Modify Other Cellular Rules, CC Docket No. 90-6, *Report and Order*, 17 FCC Red 1209 (2002).

¹⁹¹ 47 C.F.R. § 22.323. This rule was originally adopted as rule section 22.308.

¹⁹² See Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Radio Services, WT Docket No. 96-6, *First Report and Order and Further Notice of Proposed Rulemaking*, 11 FCC Red 8965 (1996) (*CMRS Flex First Report and Order*).

Commission's rules¹⁹³ are not subject to the incidental services restrictions set forth in section 22.323.¹⁹⁴ At the same time, we also eliminated the section 22.323 condition that licensees notify the Commission prior to providing incidental services.¹⁹⁵ Additionally, we indicated that the continuing need for section 22.323 would be revisited as part of the biennial review of all regulations that apply to providers of telecommunications service.¹⁹⁶ In the *NPRM*, we proposed to eliminate the conditions imposed by paragraphs (a)-(c) of section 22.323, and sought comment on whether we should also remove the remaining provision (*i.e.*, the statement that incidental services are permitted) as it applies to some or all Part 22 services.

66. In a related matter, the *NPRM* also sought comment on FreePage Corporation's (FreePage) request that section 22.323 be amended to include the "Limited Program Distribution Service" (LPDS) service proposed by FreePage as an "incidental service." In February 2000, the Bureau sought comment on a petition for rulemaking filed by FreePage requesting that we amend section 22.323 to permit paging licensees to use their assigned channels to transmit audio programming of interest to a narrow or specialized audience. Possible services cited by FreePage included, without limitation, children's programming, foreign language programming, and reading services for persons who have sight disabilities. By Public Notice, the Bureau requested comments on whether section 22.323 should be amended to include the LPDS service proposed by FreePage as an "incidental service" and on whether any other Commission rules should be amended to permit more flexible use of spectrum licensed to CMRS providers.¹⁹⁷ Four parties, including FreePage, filed comments.¹⁹⁸ In the *NPRM*, we invited comments on whether spectrum assigned to CMRS licensees could be used for the LPDS service proposed by FreePage. In particular, we sought comments addressing whether the service proposed by FreePage is in fact a broadcast service, and, therefore, whether we would need to change existing spectrum allocation and service rules to permit LPDS service in spectrum assigned to CMRS licensees. More generally, we also requested comments on what effects, if any (*e.g.*, interference, service preclusion, or redundancy of service offerings), the implementation of FreePage's LPDS proposal would have on other authorized service offerings or services proposed in pending Commission rulemaking proceedings. Finally, we solicited comments from members of the disability community regarding how they might benefit from a revision of the Commission's rules that would permit use of the spectrum for programming to narrow or specialized audiences.

¹⁹³ 47 C.F.R. § 22.901(d).

¹⁹⁴ See Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Radio Services, WT Docket No. 96-6, Second Report and Order and Order on Reconsideration, 15 FCC Rcd 14680 (2000) (CMRS Flex Second Report and Order).

¹⁹⁵ *See id.* at para. 13.

¹⁹⁶ *See id.* at para. 14.

¹⁹⁷ See "Wireless Telecommunications Bureau Seeks Public Comment on Petition to Amend 47 C.F.R. Section 22.323 to Allow CMRS Licensees to Provide Limited Program Distribution Service," *Public Notice*, 15 FCC Rcd 2553 (WTB 2000). A separate order denied FreePage's request for a waiver, a developmental license or an experimental license to offer its proposed service. *See In the Matter of FreePage Corporation, Order*, 15 FCC Rcd 2556 (WTB 2000).

¹⁹⁸ In addition to FreePage's comments, comments in support of FreePage's petition were filed by Chadmoore Wireless Group, Inc. and Arch Communications Group, Inc., and comments opposing FreePage's petition were filed by the National Association of Broadcasters. Reply comments were filed by FreePage.

67. *Discussion.* We agree with commenters that the imposing of conditions on the provision of incidental services by Part 22 licensees is no longer necessary.¹⁹⁹ Section 22.323(a) imposes the condition that the costs and charges to subscribers not wishing to receive incidental services may not be increased as a result of the provision of incidental services to other subscribers. Because of the competitive wireless environment, however, CMRS licensees are not subject to federal rate regulation and are not permitted to file tariffs with the Commission. Under these circumstances, we conclude that this rate restriction is unnecessary, as any dissatisfied subscriber will have the option of switching to a competing carrier. In addition, the meaning of the restriction in a deregulated, detariffed environment is unclear. For the same reasons, we conclude that the section 22.323(b) condition regarding the quality and availability of the primary public mobile service is no longer necessary. We also conclude that it is unnecessary to remind carriers of their obligation to comply with applicable provisions of the Act and of our rules and policies. In light of the development of meaningful economic competition since section 22.323 was adopted, therefore, we find that imposing these conditions in our rules is no longer necessary in the public interest.

68. Having concluded that the conditions limiting the provision of incidental service by Part 22 licensees should be eliminated, we further conclude that there is no reason to retain the remainder of the rule in the absence of those conditions. We recognize that some commenters advocated that we retain this portion of the rule on the grounds that having an express provision for incidental services codified in the rules is helpful in demonstrating to state commissions that certain services must be treated as CMRS exempt from state and local regulation of rates and entry.²⁰⁰ We emphasize that our elimination of the rule in no way diminishes or otherwise alters either the right of Part 22 licensees to provide incidental services or the regulatory treatment of those services as CMRS, which we have repeatedly affirmed in prior orders.²⁰¹

69. With respect to FreePage's request to include a provision in section 22.323 that LPDS is an incidental service within the meaning of the rule, we deny the request but grant alternative relief as follows. First, we find that it is unnecessary to determine whether FreePage's LPDS service constitutes an incidental service, because pursuant to the Commission's decisions in the *CMRS Flex First Report and Order* and *CMRS Flex Second Report and Order*, FreePage may provide any form of fixed or mobile service under a Part 22 authorization, provided only that its service does not constitute broadcasting.²⁰² Second, to the extent FreePage's intended service offering constitutes broadcast service, we find that it is in the public interest to provide FreePage with the flexibility to provide its LPDS service pursuant to the terms of a developmental authorization. We therefore direct the staff to waive the allocation if necessary in order to process the developmental license. Accordingly, FreePage may file an application for developmental authority with the Commission, which will be processed by the Bureau pursuant to the regulations set forth in section 22.401 of our rules.²⁰³ We believe that a developmental license will afford FreePage the opportunity to assess consumer demand for its LPDS service offering.

¹⁹⁹ CenturyTel Comments at 6; CTIA Comments at 17; Cingular Comments at 21; Verizon Comments at 27; Verizon Reply Comments at 15; RTG Comments at 6-10; Western Wireless Comments at 14-15.

²⁰⁰ See e.g. CenturyTel Comments at 6; Cingular Comments at 21-22; RTG Comments at 6-10.

²⁰¹ In the Matter of Implementation of Sections 3(n) and 332 of the Communications Act - Regulatory Treatment of Mobile Services, Second Report and Order, 9 FCC Rcd 1411, 1424, para. 36 (1994); *CMRS Flex First Report and Order*, 11 FCC Rcd at 8968-69 (holding that mobile or fixed incidental services offered by CMRS carriers fall within the definition of mobile service and are subject to CMRS regulation).

²⁰² The current allocation for Part 22 does not permit broadcasting in Part 22 spectrum.

²⁰³ 47 C.F.R. § 22.401 *et seq.*

K. Cellular Anti-Trafficking Rules.

70. *Background.* In the *NPRM*, we noted that sections 22.937,²⁰⁴ 22.943,²⁰⁵ and 22.945²⁰⁶ were originally adopted to prevent speculation and trafficking in cellular licenses that were awarded by random selection.²⁰⁷ Because we are now required to resolve mutually exclusive applications for initial cellular licenses through competitive bidding,²⁰⁸ we proposed to eliminate or substantially modify rule sections 22.937, 22.943, and 22.945 as they are now unnecessary and no longer serve the public interest.²⁰⁹

71. *Discussion.* We find, and commenters agree, that these rules are no longer necessary in the post-lottery era and should be removed or substantially modified.²¹⁰ In adopting section 22.937,²¹¹ the Commission stated that it was requiring applicants to show financial qualification because of the large capital investment required to finance the complex and sophisticated technology associated with cellular

²⁰⁴ 47 C.F.R. § 22.937. Pursuant to section 22.937, an applicant for a new cellular system must, at the time of application filing, make a demonstration of financial qualification that it has a separate market-specific firm financial commitment or available financial resources to construct and operate a cellular system for one year. The applicant must include with the application an assessment of estimated costs, source of financing, a lender's statement or certain financial statements in cases of personal or internal financing.

²⁰⁵ 47 C.F.R. § 22.943. Section 22.943 sets out limitations on assignments and transfers of cellular authorizations, and specifies that such assignments or transfers are, with certain exceptions, subject to anti-trafficking provisions of former rule section 22.139. The Commission incorporated former section 22.139 into consolidated rule section 1.948(i), 47 C.F.R. § 1.948(i). See *ULS Report and Order*, 13 FCC Rcd at App. E. Section 22.943 exceptions to the anti-trafficking rule permit the filing of: 1) applications reflecting the trading of an ownership interest in an authorized but unconstructed cellular system in one market for a commensurate interest in a cellular system in another market; and 2) applications to transfer or assign a cellular authorization obtained by lottery after commencement of service.

²⁰⁶ 47 C.F.R. § 22.945. Section 22.945 for the most part prohibits parties from having any direct or indirect interest in more than one application for authority to operate a new cellular system in the same cellular market. Exceptions to this prohibition include licensees of existing systems whose CGSA abuts a proposed CGSA and ownership interests in public traded corporations of less than 5 percent. The Commission sought to prevent abuses of the lottery process by prohibiting the filing of multiple applications in the same market by those with either a majority interest in an entity or a minority interest that may have *de facto* control of the applicant. Because the process of reviewing whether an applicant can exercise control over an applicant is difficult and time-consuming, the Commission sought to avoid protracted challenges to the selection process by precluding participation in more than one application per market in cellular lotteries. See 98 FCC 2d at 218.

²⁰⁷ Cellular licenses in the first 30 MSAs were awarded by comparative hearing. Later, the Commission adopted rules to award licenses for other MSAs and RSAs by random selection. In the *Matter of Amendment of the Commission's Rules to Allow the Selection from Among Mutually Exclusive Competing Cellular Applications Using Random Selection or Lotteries Instead of Comparative Hearings*, CC Docket 83-1096, *Report and Order*, 98 FCC 2d 175 (1984).

²⁰⁸ As of July 1, 1997, the Commission was prohibited by the Balanced Budget Act of 1997 from issuing any license or permit through random selection. The Commission is now required to resolve mutually exclusive applications for initial licenses through competitive bidding. See *Balanced Budget Act of 1997*, Pub. L. No. 105-33, 111 Stat. 251 at section 3002(a); 47 U.S.C. § 309(i), (j) (1997).

²⁰⁹ See *NPRM* at para. 66.

²¹⁰ Circular Comments at 22-23; Verizon Comments at 29-31; Western Wireless Comments at 15-16.

²¹¹ Section 22.937 was originally adopted as section 22.917.

operations.²¹² The Commission noted that cellular service was viewed as a relatively high-cost business venture because the service was still at an early stage of development.²¹³ We conclude that section 22.937 is no longer necessary as a general matter because the cellular radiotelephone service has matured and there are two authorized cellular carriers in all MSAs and virtually all RSAs.²¹⁴ As we noted in the *NPRM*, our cellular rules have been amended to permit interested parties to file applications for any areas not serviced by cellular carriers after the expiration of the applicable build-out period,²¹⁵ and such applications are now subject to competitive bidding.²¹⁶ Although we proposed to retain section 22.937 in the context of comparative renewal proceedings, we find that the rule is not necessary. We have the authority to seek financial qualification information in a comparative renewal proceeding if we so choose. We therefore eliminate section 22.937 in its entirety.

72. We similarly conclude that section 22.943 should be removed as unnecessary. Our anti-trafficking rules were developed to deter speculation on cellular licenses. In setting out the anti-trafficking rules, the Commission sought to balance the public interest in liberal transferability of licenses with a means to deter insincere applicants from speculating on unbuilt facilities.²¹⁷ Accordingly, we proposed in the *NPRM* to eliminate section 22.943 to the extent that it prohibits trafficking in cellular licenses and precludes unserved area licensees from assigning or transferring an authorization until they have provided service to subscribers for at least one year.²¹⁸ We noted that the cellular service-specific anti-trafficking rule set out in section 22.943 may be unnecessary and duplicative as there are similar provisions in Part 1 of our rules that are applicable to all wireless services.²¹⁹

73. We noted in the *NPRM* that, while section 22.943 was useful in deterring speculation during the time period in which we used lotteries to select licensees, we now use competitive bidding to resolve mutual exclusivity. Mutually exclusive applications for licenses in other CMRS are also required to be resolved through the use of competitive bidding. Yet in those cases, we do not impose service-specific anti-trafficking rules, or mandate specific holding periods prior to assignment or transfer of licenses acquired through competitive bidding.²²⁰ Accordingly, we eliminate the portions of section 22.943 that prohibit trafficking in cellular licenses, and that require carriers who acquired unserved area licenses to provide service to subscribers for at least one year before such licenses may be assigned or

²¹² See In the Matter of An Inquiry into the Use of the Bands 825-845 MHz and 879-890 MHz for Cellular Communications Systems, CC Docket No. 79-318. *Report and Order*, 86 FCC 2d 469 (1981).

²¹³ *Id.* at 501.

²¹⁴ *NPRM* at para. 67. We note that three of the remaining four RSAs were auctioned on June 4, 2002, although licenses have not yet been granted. Accordingly, there should be two cellular carriers in all but one RSA in the near future.

²¹⁵ See section 22.947. The two initial licensees of a cellular market are given a five year period within which they have exclusive right to expand (with certain exceptions).

²¹⁶ See 47 C.F.R. §§ 22.131, 22.949.

²¹⁷ See 98 FCC 2d at 217.

²¹⁸ *NPRM* at para. 68.

²¹⁹ *Id.* Section 1.948(i) states that “[a]pplications for approval of assignment or transfer may be reviewed by the Commission to determine if the transaction is for purposes of trafficking in service authorizations.” 47 C.F.R. § 1.948(i). Pursuant to section 1.948(i), we may require applicants to submit an affirmative showing demonstrating that the assignor did not acquire the authorization for the principal purpose of speculation or profitable resale of the authorization. 47 C.F.R. § 1.948(i)(2).

²²⁰ One exception is for PCS entrepreneur blocks. Limits were specified for these licenses because the entrepreneur blocks were limited to small business applicants.

transferred. We further find that that the cellular service-specific anti-trafficking rule set out in section 22.943 is unnecessary, given the presence of the anti-trafficking provisions of section 1.948(i), which is applicable to all services.²²¹

74. Similarly, because section 22.945 was adopted for the sole purpose of preventing lottery system abuses,²²² our obligation to resolve mutual exclusivity through competitive bidding also makes this rule unnecessary. An applicant filing more than one application for a specific unserved area under our current rules would have no advantage over other applicants seeking authorization to serve the same geographic area. One commenter agrees that section 22.945 is obsolete.²²³ Because this provision was adopted to prevent lottery abuses and is thus no longer relevant,²²⁴ we therefore eliminate section 22.945 as no longer necessary in the public interest.

I. Other Rule Changes Recommended by Commenters.

75. In the *NPRM*, we not only sought comment on our specific proposals, but also invited comment on whether we should modify any additional provisions of our Part 22 rules as a result of competitive or technological developments. In the sections below, we address these additional recommendations made by the commenters in this proceeding.

1. Overhaul of the Unserved Area Licensing Rules.

76. *Background.* Section 22.941 sets forth the “unserved area” licensing process for the cellular service. Briefly, initial licensees in a market are given five years in which to construct cell sites without the possibility of competing applications from neighboring carriers. At the end of the initial five-year period, the unserved area licensing process governs the expansion of a carrier’s system by making all areas in the market that are not yet served available for licensing to other carriers. The unserved area process begins with Phase I, which is a one-time, one-day window for all interested parties to file for licenses in the unserved portions of the market. After disposal of any Phase I application(s), the cellular market proceeds to Phase II procedures, whereby carriers file applications under a 30-day notice and cut-off filing window.²²⁵ In other words, if a carrier files for unserved area under Phase II procedures and its application is not mutually exclusive with another application filed within 30 days of the public notice of the initial filing, the initial filing is granted. If mutually exclusive applications are filed, the matter is resolved via competitive bidding. The unserved area licensing approach provides ample time for the initial licensee to construct facilities within the market, and later provides a means for other carriers to serve portions of the market that the initial licensee does not wish to serve. In this situation, carriers are only licensed for areas that they intend to serve.

²²¹ Our conclusion to remove service-specific anti-trafficking provisions of section 22.943 extends to section 22.943(c), which states that we will not accept applications for consent to assign or transfer a cellular authorization acquired by a current licensee for the first time as a result of a comparative renewal proceeding until the system have provided service to subscribers for at least three years. See 47 C.F.R. § 22.943(c). We noted in the *NPRM* that we would leave intact portions of section 22.937 relating cellular renewal proceedings, but requested comment on whether to retain section 22.943(c). See *NPRM* at para. 69. Although section 22.943(c) also relates to cellular renewals, it is nonetheless an anti-trafficking provision and should be removed as duplicative of rule section 1.948(i).

²²² *NPRM* at para. 70.

²²³ Western Wireless Comments at 16.

²²⁴ Verizon Comments at 30.

²²⁵ 47 C.F.R. §§ 22.131(b)(3), 22.949(b).

77 Certain carriers recommend that we replace the unserved area licensing process. In general, the commenters point out that the current site-by-site approach requires pre-approval each time a licensee wishes to expand its system. Proposals by two of the commenters favor a one-time process that licenses the remaining unserved areas, so that pre-approval of future expansions is no longer necessary. For example, Western Wireless recommends that the Commission abandon the per-application approach of the unserved area rules and instead: (1) automatically incorporate areas of 50 square miles or less into the CGSAs of the first-authorized incumbent adjoining the unserved area; and (2) open a filing window for all unserved areas exceeding 50 square miles, resulting in either the incorporation of the unserved area into the incumbent carrier's CGSA, or an auction among mutually exclusive applicants.²²⁶ Cingular also proposes a similar approach.²²⁷ AT&T Wireless proposes a more limited change, eliminating filings for unserved areas of less than 50 square miles that are completely surrounded by an incumbent's CGSA (i.e., the incumbent is the only one eligible under the rules to file an application).²²⁸ Further, Dobson proposes that incumbents should be able to cover unserved areas of less than 50 square miles on a secondary basis without having to obtain prior Commission approval.²²⁹ Commenters supporting an alternative unserved area licensing scheme collectively argue that the current approach must be replaced because it is administratively inefficient, delays service to rural areas, and is dissimilar to PCS and SMR wide-area licensing approaches.²³⁰

78 *Discussion.* While we applaud the commenters' initiative in recommending a significant overhaul of the cellular unserved licensing process, the suggestions made by commenters constitute a fundamental change to our cellular service licensing model, and, as such, are beyond the scope of this proceeding. We also note that under our current process, the Commission receives approximately 40 unserved area applications each month, disposing of each usually within 45-60 days.²³¹ Given that so few unserved area applications are filed with the Commission today and are processed quickly, we question whether the burdens on all licensees of a major overhaul at this point warrants any corresponding benefits.

79 In considering the wisdom of making significant changes within the cellular unserved licensing context, we would need to identify an alternative approach that is administratively efficient, less complicated than the current approach, represents an improvement over the status quo in terms of speed of licensing and convenience for licensees, and continues to provide small as well as large carriers with reasonable opportunities to serve currently unserved areas. Given that the current system results in little administrative delay, we do not find that commenters have done so.

80 Further, commenters have failed to adequately address construction, interference protection, and market structure issues that would need to be addressed under a new processing regime. First, we would need to address the construction requirements that would be placed on auction winners and incumbents under their proposal. For example, the small number of unserved areas remaining are characterized by sparse, widely-distributed populations. What type of population-based or geographic-

²²⁶ Western Wireless Comments at 6-9. Western Wireless also proposes to exempt "first in" incumbents from certain of the filing requirements under this approach.

²²⁷ Cingular Comments at 24.

²²⁸ AT&T Wireless Comments at 5.

²²⁹ Dobson Comments at 4.

²³⁰ Cingular Comments at 25; Western Wireless Comments at 3-4.

²³¹ One reason for the small number of unserved area applications filed is that only 15 percent of the geography within the continental United States is outside of the licensed service area boundaries of existing A block cell sites, and only 12 percent for B block cell sites.

based coverage requirements make sense for these areas? Further, we would need to address the method(s) in the context of an overlay auction, that would be used to limit the potential for in-band interference to licensees in neighboring markets. In other geographically-licensed services like PCS, for example, we have specified a maximum signal strength at the market boundary (unless the licensees agree to a higher signal strength), and in the cellular service we require licensees to coordinate facilities based on mileage.

81 Also, the commenters' proposal assumes that the remaining unserved areas would be licensed via an overlay auction based on MSAs and RSAs. We question whether it would be more appropriate to use an alternative scheme, particularly one that does not auction unserved areas spanning multiple markets as separate license areas.²³² Commenters have not recognized the significance of these issues in our reform. Finally, there are a number of administrative burdens associated with the commenters' proposal. For example, it would be a major undertaking by the Commission's staff and licensees to locate every unserved area of less than 50 square miles, and to determine which adjacent incumbent licensee would obtain the area under the suggested approach. Likewise, the recommended approach would require detailed analysis of the licensing history of each market in order to determine which incumbent licensees were "first in" in order to exempt them from certain of the proposed filing requirements.

82 In sum, even in assuming commenters' proposals fell within the scope of this proceeding, given that so few unserved area applications are filed with the Commission today and are processed quickly, we question whether the burdens on all licensees of a major overhaul at this point warrants any corresponding benefits. We believe that a more complete record must be developed before any Commission action is warranted. Carriers may propose modifications to the cellular unserved licensing process in the form of a petition for rule making, which would facilitate the development of a full record with respect to this matter.

2. CGSA Expansion Notifications.

83 *Background.* Dobson seeks to have removed the requirement that licensees notify the Commission of each CGSA expansion for markets within the initial five-year construction period.²³³ Currently, section 22.165(e) requires licensees to notify the Commission within 15 days of expanding their CGSAs, even during the initial five-year construction period. As discussed *supra*, cellular licensees are free to construct facilities anywhere within their markets without the possibility of competing applications during the initial construction period. Dobson recommends that we simply require the licensee to file a system information update at the end of the five-year period, *i.e.*, identify the areas that are served and unserved in preparation for the unserved area Phase I process.

84 *Discussion.* We agree with Dobson that generally the Commission and other licensees have no interest in knowing the precise location of an initial licensee's CGSA until end of the initial five-year period. At that point, the CGSA must be a matter of record available to potential Phase I unserved area applicants as well as the Commission's staff in order to process the unserved area applications. Presently, there are only eleven cellular markets that are still within the initial five-year construction period. In addition, we will soon issue initial licenses in three of the remaining RSAs. Even though very few licensees will be in a position to take advantage of this change, we will revise the rule substantially as

²³² For example, under the commenters' proposal, if a contiguous unserved area spans multiple markets, an applicant would need to bid on each of the multiple markets in order to become licensed to serve the area. We question whether this is more efficient than the current process.

²³³ Dobson Comments at 5.

requested. Therefore, we will revise section 22.165(e) to require licensees in their initial five-year build-out period to notify the Commission of cell sites making up their CGSAs once yearly on the anniversary of license grant, rather than requiring licensees to file notifications within 15 days of initiating service at each site.²³⁴ We conclude that revising this requirement to provide for an annual reporting obligation will minimize unnecessary regulatory burdens for initial cellular licensees while providing a reasonably up-to-date source of data for other cellular licensees and Commission staff.²³⁵

3. Contract Extension Clarification.

85. *Background.* Section 22.912 of the Commission's rules provides that any SAB extensions into an adjacent carrier's CGSA requires the consent of the adjacent carrier.²³⁶ In its comments, Verizon asks the Commission to clarify that, in the case where an adjacent carrier has already consented to analog SAB extensions into its CGSA, a separate agreement is not required in order to extend the SAB of a digital signal into the CGSA so long as it does not exceed boundary established by the initial analog agreement.²³⁷ Verizon points out that revisiting carrier consent can be a "difficult and costly process."

86. *Discussion.* In response to Verizon's request, we take this opportunity to clarify that our rules do not limit the scope of private, contractual agreements between cellular licensees in this case. To the extent that a carrier enters into an agreement that provides for extensions of both analog and digital signals into an adjacent carrier's CGSA, our rules do not require separate notification to the Commission of such extensions; a single notification of the scope of that extension will be adequate notice.

4. Symmetry for Cellular and PCS Renewal Rules.

87. CTIA states that in December 1999, it filed a Petition for Rulemaking requesting that the Commission extend the current two-step cellular renewal process to PCS.²³⁸ In its comments, CTIA asks the Commission to take this opportunity to revise the Part 24 (PCS) renewal rule, making it identical to the Part 22 (cellular) renewal rule.²³⁹ CTIA's position regarding renewals calls for the revision of the Part 24 PCS rules and is therefore beyond the scope of this Part 22 Biennial Review proceeding. Accordingly, we will take no action on CTIA's request at this time.

5. Maximum Base Station Transmit Power.

88. *Background.* Qualcomm recommends that we modify section 22.913(a) of our rules such that the output power of a base station is specified in terms of a power per bandwidth in a specified

²³⁴ The licensee must notify the Commission of these sites by modifying its license electronically via the Commission's Universal Licensing System (ULS). As in the past, the licensee will also need to file the system information update pursuant to 47 C.F.R. § 22.947(c).

²³⁵ The technical information submitted by cellular licensees regarding their cell sites may be used by other licensees who wish to coordinate frequency usage along market borders or wish to seek contract extensions into a neighboring market. The Commission's staff also may use this information to analyze market conditions and service availability.

²³⁶ Verizon Comments at 31.

²³⁷ *Id.*

²³⁸ See 47 C.F.R. § 22.935.

²³⁹ CTIA Comments at 18.

angular region.²⁴⁰ Qualcomm asserts that the current 500-Watt ERP (effective radiated power) limit is “generally taken to be per carrier.” Qualcomm argues, however, that the assumed “per carrier” fixed limit is inappropriate and counterproductive with respect to higher bandwidth techniques such as CDMA.²⁴¹

89. *Discussion.* We initiated this biennial review in order to identify whether any rule is no longer in the public interest as a result of meaningful economic competition and whether such rules should be modified or removed. While its recommendation may have some merit, Qualcomm essentially seeks to have us re-examine the effects of one of our fundamental technical rules on various technologies. Accordingly, because Qualcomm’s request is beyond the scope of this specific proceeding, we decline to address it at this time. Of course, we note that Qualcomm may always file a petition for rule making to address its proposed modification of section 22.913(a).²⁴²

IV. ADMINISTRATIVE MATTERS.

A. Final Regulatory Flexibility Act Analysis.

90. The Final Regulatory Flexibility Analysis for this Report and Order, as required by the Regulatory Flexibility Act of 1980, see 5 U.S.C. § 604, is set forth in Appendix B.

B. Paperwork Reduction Act Analysis.

91. The actions taken in this Report and Order have been analyzed with respect to the Paperwork Reduction Act of 1995, Pub. L. No. 104-13, and found to impose no new or modified recordkeeping requirements or burdens on the public.

V. ORDERING CLAUSES.

92. IT IS ORDERED that, pursuant to the authority of sections 4(i), 7, 303(c), 303(f), 303(g), 303(r), and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(c), 303(f), 303(g), 303(r), and 332, the rule changes specified in Appendix A are adopted.

²⁴⁰ Qualcomm Comments at 8-9. Section 22.913(a) establishes the maximum effective radiated power of base transmitters and cellular repeaters. 47 C.F.R. § 22.913(a).

²⁴¹ Qualcomm Comments at 8-9.

²⁴² We also decline to address Ericsson’s proposal regarding TIA’s distribution of ESNs as beyond the scope of this proceeding. The Commission ceased assigning or maintaining a list of manufacturer codes for cellular equipment in August 1997. TIA assumed the responsibilities of managing and coordinating manufacturer codes for various wireless services once the Commission discontinued assigning cellular manufacturer codes. In its comments, Ericsson asks the Commission to take a critical look at TIA’s Assignment Guidelines and Procedures (Guidelines) for the distribution of ESNs. Ericsson Comments at 12-13. Ericsson notes that TIA has the responsibility of assigning ESNs to manufacturers, but the current guidelines prepared by TIA for assigning ESNs do not permit TIA to fully control the use of ESNs. This, argues Ericsson, threatens the integrity of TIA’s function as administrator. Ericsson calls on TIA to amend its Guidelines to incorporate discrete enforcement procedures (*i.e.* clear consequences for misuse) in order to maintain the integrity of the assignment process. As explained above, we initiated this biennial review proceeding to identify any Commission regulation that is no longer necessary in the public interest as a result of meaningful economic competition and to repeal or modify such regulation. Accordingly, this proceeding is not the appropriate forum to discuss changes to guidelines developed by a private industry association regarding functions not regulated by the Commission. We also observe that none of the commenters, including Ericsson, indicates that any Commission action is needed or possible at this time in order to address this situation.

93 IT IS FURTHER ORDERED that the rule changes set forth in Appendix A WILL BECOME EFFECTIVE 60 days after publication in the *Federal Register*.

94 IT IS FURTHER ORDERED that certain commercial mobile radio service carriers and other entities must submit reports regarding access to mobile telephony services by emergency-only consumers and persons with hearing disabilities at one and two years prior to the sunset of the rules requiring cellular carriers to provide analog service compatible with Advanced Mobile Phone Service (AMPS) specifications.

95 IT IS FURTHER ORDERED that the Wireless Telecommunications Bureau is authorized to carry out such actions necessary to transfer the administration of cellular system identification numbers as identified herein.

96 IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this *Report and Order*, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION



Marlene H. Dortch
Secretary

APPENDIX A

RULE CHANGES

1 Title 47, part 22 of the Code of Federal Regulations, 47 CFR part 22, is amended as follows:

1 The authority citation for part 22 continues to read as follows:

1 AUTHORITY: 47 U.S.C. 154, 222, 303, 309 and 332.

2 Section 22.165 is amended by revising paragraph (e) to read, as follows:

(c) *Cellular radiotelephone service.* During the five-year build-out period, the service area boundaries of the additional transmitters, as calculated by the method set forth in § 22.911(a), must remain within the market, except that the service area boundaries may extend beyond the market boundary into the area that is part of the CGSA or is already encompassed by the service area boundaries of previously authorized facilities. After the five-year build-out period, the service area boundaries of the additional transmitters, as calculated by the method set forth in § 22.911(a), must remain within the CGSA. Licensees must notify the Commission (FCC Form 601) of any transmitters added under this section that cause a change in the CGSA boundary. The notification must include full size and reduced maps, and supporting engineering, as described in § 22.953(a)(5)(i) through (iii). If the addition of transmitters involves a contract service area boundary (SAB) extension (see § 22.912), the notification must include a statement as to whether the five-year build-out period for the system on the relevant channel block in the market into which the SAB extends has elapsed and whether the SAB extends into any unserved area in the market. The notification must be made electronically via the ULS, or delivered to the filing place (see § 1.913 of this chapter) once yearly during the five-year build-out on the anniversary of the license grant date.

3 Section 22.323 is removed.

4 Section 22.367 is amended by removing and reserving paragraph (a)(4) and by revising paragraph (d), to read as follows:

§ 22.367 Wave polarization.

(f) *****

(g) [Reserved]

(d) *Any polarization.* Base, mobile and auxiliary test transmitters in the Cellular Radiotelephone Service are not limited as to wave polarization. Public Mobile Service stations transmitting on channels higher than 960 MHz are not limited as to wave polarization.

5 Section 22.377 is amended by removing paragraph (c).

6 Section 22.901 is revised to read as follows:

§ 22.901 Cellular service requirements and limitations.

(d) *Alternative technologies and co-primary services.* Licensees of cellular systems may use alternative cellular technologies and/or provide fixed services on a co-primary basis with their mobile offerings, including personal communications services (as defined in part 24 of this chapter) on the spectrum within their assigned channel block.

(1) * * *

(2) * * *

(e) *Sunset of cellular compatibility requirement.* Until [FIVE YEARS FROM THE EFFECTIVE DATE OF ORDER], each cellular system that provides two-way cellular mobile radiotelephone service must –

(1) Maintain the capability to provide compatible analog service (“AMPS”) to cellular telephones designed in conformance with the specifications contained in sections 1 and 2 of the standard document ANSI TIA/EIA-553-A “Mobile Station – Base Station Compatibility Standard” (published November 1999 - available for purchase from Global Engineering Documents, 15 Inverness East, Englewood, CO 80112-5704); or, the corresponding portions, applicable to mobile stations, of whichever of the predecessor standard documents was in effect at the time of the manufacture of the telephone.

(2) Provide AMPS, upon request, to subscribers and roamers using such cellular telephones while such subscribers are located in any portion of the cellular system’s CGSA where facilities have been constructed and service to subscribers has commenced. *See also* § 20.12 of this chapter. Cellular licensees must allot sufficient system resources such that the quality of AMPS provided, in terms of geographic coverage and traffic capacity, is fully adequate to satisfy the concurrent need for AMPS availability.

7 Section 22.905 is revised to read as follows:

§ 22.905 Frequency bands.

The following frequency bands are allocated for assignment to service providers in the Cellular Radiotelephone Service.

(a) Channel Block A: 869 – 880 MHz paired with 824 – 835 MHz, and 890 – 891.5 MHz paired with 845 – 846.5 MHz.

(b) Channel Block B: 880 – 890 MHz paired with 835 – 845 MHz, and 891.5 – 894 MHz paired with 846.5 – 849 MHz.

8 Section 22.911 is amended by revising paragraphs (b)(1) and (b)(3), to read as follows:

§ 22.911 Cellular geographic service area.

(b) (1) * * * * *

(b) (3) * * * * *

(1) The alternative CGSA determination must define the CGSA in terms of distances from the cell sites to the 32 dB μ V/m contour along the eight cardinal radials, with points in other azimuthal directions determined by the method given in paragraph (a)(6) of this section. * * *

* * * * *

(3) The provision for alternative CGSA determinations was made in recognition that the formula in paragraph (a)(1) of this section is a general model that provides a reasonable approximation of coverage in most land areas, but may under-predict or over-predict coverage in specific areas with unusual terrain roughness or features, and may be inapplicable for certain purposes, e.g., cells with a coverage radius of less than 8 kilometers (5 miles). * * *

* * * * *

9 Section 22.915 is removed.

10 Section 22.917 is revised to read as follows:

§ 22.917 Emission limitations for cellular equipment.

The rules in this section govern the spectral characteristics of emissions in the Cellular Radiotelephone Service.

(a) *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

(b) *Measurement procedure.* Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(c) *Alternative out of band emission limit.* Licensees in this service may establish an alternative out of band emission limit to be used at specified band edge(s) in specified geographical areas, in lieu of that set forth in this section, pursuant to a private contractual arrangement of all affected licensees and applicants. In this event, each party to such contract shall maintain a copy of the contract in their station files and disclose it to prospective assignees or transferees and, upon request, to the FCC.

(d) *Interference caused by out of band emissions.* If any emission from a transmitter operating in this service results in interference to users of another radio service, the FCC may require a greater attenuation of that emission than specified in this section.

11. Section 22.919 is removed.

12. Section 22.921 is amended to read as follows:

§ 22.921 911 call processing procedures; 911-only calling mode.

Mobile telephones manufactured after February 13, 2000 that are capable of operating in the analog mode described in the standard publication ANSI TIA/EIA-553-A-99 "Mobile Station – Base Station Compatibility Standard" (published November 1, 1999 - available for purchase from Global Engineering Documents, 15 Inverness East, Englewood, CO 80112), must incorporate a special procedure for processing 911 calls. Such procedure must recognize when a 911 call is made and, at such time, must override any programming in the mobile unit that determines the handling of a non-911 call and permit the call to be transmitted through the analog systems of other carriers. This special procedure must incorporate one or more of the 911 call system selection processes endorsed or approved by the FCC.

13. Section 22.933 is removed.

14. Section 22.937 is removed.

15. Section 22.941 is removed.

16. Section 22.943 is amended by revising it to read as follows:

§ 22.943 Limitations on transfer of control and assignment for authorizations issued as a result of a comparative renewal proceeding.

Except as otherwise provided in this section, the FCC does not accept applications for consent to transfer of control or for assignment of the authorization of a cellular system that has been acquired by the current licensee for the first time as a result of a comparative renewal proceeding until the system has provided service to *subscribers for at least three years.*

(a) The FCC may accept and grant applications for consent to transfer of control or for assignment of the authorization of a cellular system that is to be transferred as a part of a *bona fide* sale of an on-going business to which the cellular operation is incidental.

(b) The FCC may accept and grant applications for consent to transfer of control or for assignment of the authorization of a cellular system that is to be transferred as a result of the death of the licensee.

(c) The FCC may accept and grant applications for consent to transfer of control or for assignment of authorization if the transfer or assignment is *pro forma* and does not involve a change in ownership.

17. Section 22.945 is removed.

18. Section 22.946 is amended by revising it to read as follows:

§ 22.946 Service commencement and construction periods for cellular systems.

* * * * *

b) To satisfy this requirement, a cellular system must be interconnected with the public switched telephone network (PSTN) and must be providing service to mobile stations operated by its subscribers and roamers. A cellular system is considered to be providing service only if mobile stations can originate telephone calls to and receive telephone calls from wireline telephones through the PSTN.

(c) *Construction period for specific facilities.* The construction period applicable to specific new or modified cellular facilities for which a separate authorization is granted is one year, beginning on the date the authorization is granted.

H. Title 47, part 24 of the Code of Federal Regulations, 47 CFR part 24, is amended as follows:

1. The authority citation for part 24 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 301, 302, 303, 309 and 332.

2. Section 24.238 is revised to read as follows:

§ 24.238 Emission limitations for Broadband PCS equipment.

The rules in this section govern the spectral characteristics of emissions in the Broadband Personal Communications Service.

(a) *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

(b) *Measurement procedure.* Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (*i.e.* 100 kHz of 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(c) *Alternative out of band emission limit.* Licensees in this service may establish an alternative out of band emission limit to be used at specified band edge(s) in specified geographical areas, in lieu of that set forth in this section, pursuant to a private contractual arrangement of all affected licensees and applicants. In this event, each party to such contract shall maintain a copy of the contract in their station files and disclose it to prospective assignees or transferees and, upon request, to the FCC.

(d) *Interference caused by out of band emissions.* If any emission from a transmitter operating in this service results in interference to users of another radio service, the FCC may require a greater attenuation of that emission than specified in this section.

APPENDIX B

FINAL REGULATORY FLEXIBILITY ANALYSIS

1. As required by the Regulatory Flexibility Act (RFA),¹ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the Notice of Proposed Rulemaking in WT Docket No. 01-108, released May 17, 2001 (*NPRM*).² The Commission sought written public comment on the proposals in the Second Further Notice, including comment on the IRFA. The comments received are discussed below. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.³

A. Need for, and Objectives of, the Order.

2. In the Telecommunications Act of 1996, Congress added sections 11 and 202(h) to the Communications Act of 1934, as amended, requiring the Commission to 1) review biennially its regulations that pertain to the operations or activities of telecommunications service providers, and 2) determine whether those regulations are no longer necessary in the public interest as a result of meaningful economic competition. Following such review, the Commission is required to modify or repeal any such regulations that are no longer in the public interest.⁴ Accordingly, as part of the Commission's year 2000 Biennial Review of regulations, the *Report and Order* amends Part 22 of the Commission's rules by modifying or eliminating various rules that have become outdated due to technological change, increased competition in the Commercial Mobile Radio Services (CMRS) market, or supervening rules.

3. In particular, the *Report and Order* removes the cellular analog requirement after a five-year transition period and requires reports by certain CMRS licensees and other entities showing the level of access to mobile telephony had by persons with hearing disabilities or those using emergency-only phones. The *Report and Order* also removes the manufacturing requirements governing Electronic Serial Numbers (ESNs) in cellular telephones, as well as modifying several other technical rules.⁵ In the same vein, the Commission found some of the cellular anti-trafficking rules to be outdated because they were adopted during a period when the Commission resolved mutually exclusive applications for initial cellular services through lottery, rather than the current system of resolving such mutually exclusive applications through competitive bidding.⁶ The Commission also reevaluated certain other Part 22 rules that apply both to cellular and to other CMRS, specifically section 22.323, which imposes conditions on the provision of "incidental" services by Public Mobile Services providers.⁷

¹ See 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601 *et. seq.*, has been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

² Year 2000 Biennial Regulatory Review – Amendment of Part 22 of the Commission's Rules to Modify or Eliminate Outdated Rules Affecting the Cellular Radiotelephone Service and other Commercial Mobile Radio Services, *Notice of Proposed Rulemaking*, 16 FCC Rcd 11169 (2001) (*NPRM*).

³ *See* 5 U.S.C. § 604.

⁴ 47 U.S.C. § 11(b); *see also* the Telecommunications Act of 1996 § 202(h).

⁵ The specific technical rules include: sections 22.367(a)(4), 22.901, 22.905, 22.911, 22.915, 22.917, 22.919, 22.933, 22.941, and 22.946 of the Commission's rules.

⁶ The specific cellular anti-trafficking rules include: sections 22.937, 22.943, and 22.945 of the Commission's rules.

⁷ *See* 47 C.F.R. § 22.323.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA.

4. Although we have received numerous comments in response to the *NPRM*, we received no comments in response to the IRFA. However, as described in section E. below, we have nonetheless considered potential significant economic impacts of the rules on small entities.

5. **Analog Compatibility Requirement.** Although the comments suggest that elimination of the analog requirement would not affect the majority of wireless consumers that are already using digital service, some commenters contend that there are particular classes of consumers and service providers that would be harmed by elimination of the rule. These commenters focus particularly on the possibility that, if the rule were eliminated, cellular carriers in major markets would be likely to drop analog service in those markets to provide more capacity for their digital systems.⁸ Commenters argue that, at the very least, the requirement should be eliminated only after a transition period.⁹ The unavailability of analog service in these markets, commenters contend, would have an adverse impact on the following groups:

6. *Small and regional carriers.* Small and regional carriers argue that, if the analog requirement is eliminated, they will be forced to transition from solely analog services to digital in order to ensure that their customers will have service outside of their home market, as well as to continue to provide roaming service to customers of the large nationwide carriers.¹⁰ They argue that eliminating the analog requirement will force them to bear the financial burden of immediately converting to digital, regardless of consumer demand within their particular markets. Further, these commenters assert that a decision to adopt any particular digital technology will be dictated by a small/regional carrier's larger roaming partner.¹¹ Moreover, commenters argue that, in certain areas, a small or regional licensee may be positioned between major markets whose licensees have chosen incompatible digital technologies, forcing it to choose between roaming partners and multiple digital standards in the absence of analog technology.¹² These commenters argue that, in the absence of interoperable digital technology, the analog requirement should not be eliminated.

7. *Analog-only consumers.* It is estimated that there are approximately 26 million analog-only subscribers.¹³ These include consumers who use analog-only handsets because their carriers do not provide digital service (mainly rural cellular carriers) as well as subscribers who have purchased 911-only mobile phones. Remaining analog-only users are non-subscribers, such as certain elderly or victims of domestic violence, who have received recycled analog equipment for use for emergency purposes. Presently, a customer using analog-only equipment can roam on other cellular networks in the event the

⁸ Bristol Bay Comments at 2-3; Mid-Missouri Cellular et al. Comments at 7-8, 11; RCA Comments at 7-8; RTG Comments at 3; Verizon Comments at 7; WCA at 4; CNH Reply Comments at 3.

⁹ Bristol Bay Comments at 6-7; RCA Comments at 5-7; RTG Comments at 3-6.

¹⁰ ATX Technologies Reply Comments at 5, 8; Bristol Bay Comments at 2-3, 6-7; Mid-Missouri Cellular et al. Comments at 4, 6-10; Secure Alert Comments at 3; Verizon Comments at 7; WCA Comments at 4; CNH Reply Comments at 3; Mid-Missouri Cellular et al. Reply Comments at 5-6; RCA Comments at 5-8; RTG Comments at 3-6; NE Colorado Reply Comments at 2; Century Tel Comments at 4.

¹¹ RCA Comments at 8; Mid Missouri Cellular et al. Comments at 4, 6.

¹² RCA Comments at 9; Mid Missouri Cellular et al. Comments at 4-6.

¹³ See in the Matter of 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, *Seventh Report*, 17 FCC Rcd 12985 (2002).

consumer is outside of his/her home market. Commenters argue that these cellular customers would lose the ability to roam with their current analog-only handset if the analog standard is eliminated and both carriers within a given area shut down their analog networks.

8. *Telematics.* Telematics services providers have, for the most part, relied on analog technology to ensure interoperable communications nationwide. Telematics advocates assert that analog service is vital, due to the *ambulant nationwide nature of telematics technology*.¹⁴ It is argued that digital systems cannot yet transmit both voice and data on the same call, a feature that commenters argue is important for telematics providers.¹⁵ These commenters assert that the interoperability problem is particularly difficult for telematics devices because manufacturers must choose a technology that is embedded in a vehicle that will have a useful life of ten or more years.¹⁶ Moreover, these providers assert that, unlike the typical cellular subscriber who can readily switch to digital handsets if necessary, the development cycle (the length of time necessary to design equipment, test, and install in compatible vehicles) and hardware basis of telematics-equipped vehicles prevents users of such services from quickly and easily migrating to a new technology. These providers argue that telematics devices are imbedded into vehicles in such a way as to make it cost prohibitive to retrofit legacy vehicles with analog-based equipment. Given the development cycles and life spans of such vehicles (often longer than ten years), commenters argue that the immediate elimination of the analog rule would be a setback for telematics providers and their customers. *Instead, certain telematics providers argue that if the analog requirement must be eliminated, the industry must be given a reasonable transition period, and suggest that such a transition period would be ten years.*

9. *Persons with hearing disabilities.* Persons with hearing disabilities desiring to use wireless devices must currently rely on analog service or the small number of digital phones that are currently compatible with only certain hearing aids. Unlike analog handsets, digital technologies have been shown to cause interference to hearing aids and cochlear implants. Accessibility advocates and those with hearing disabilities note that market forces (e.g. need for spectrum efficiency, enhanced services such as wireless data) make a shift to digital technology inevitable. These commenters argue that at this point, however, due to the lack of hearing aid-compatible digital equipment, persons with hearing disabilities must rely on analog equipment to access mobile telephony, thereby settling for inferior sound quality, fewer service options, and higher prices. Commenters argue that, because persons with hearing disabilities account for only a small percentage of mobile telephony users, there are not sufficient economic incentives for carriers to expend resources to ensure that these individuals have access to wireless service. Accessibility advocacy groups maintain that the analog requirement should not be eliminated (if at all) until new digital services are accessible and readily available to persons with hearing disabilities.

10. **Electronic Serial Number.** Numerous commenters support the proposal to remove section 22.919.¹⁷ Commenters agree that the industry is capable of developing anti-fraud measures on its own and that the rule prevents carriers from deploying advanced technologies such as smart cards.¹⁸ Verizon, however, supports elimination of the detailed design requirements in the rule, but would keep

¹⁴ AFX Technologies Comments at 16; Deere Comments at 5, 7; Secure Alert Comments at 3; Deere Reply Comments at 2; MBUSA Reply Comments at 5; OnStar Reply Comments at 2.

¹⁵ AFX Technologies Reply Comments at 12.

¹⁶ Deere Comments at 9; CNH Reply Comments at 4; Deere Reply Comments at 3; MBUSA Reply Comments at 6.

¹⁷ Congular Comments at 16-17; CTIA Comments at 12-14; Qualcomm Comments at 3-5.

¹⁸ Ericsson Comments at 11-12; Qualcomm Comments at 3-4; TIA Comments at 5-6.

the requirement that cellular telephones have a unique ESN.¹⁹ Further, CenturyTel and Verizon, argue that removing the ESN rule would be disruptive to other aspects of cellular service.²⁰ CenturyTel believes that elimination of this rule section would require them to replace their billing system.²¹ Alternatively, ICSA supports our current proposal, but does so because it believes that it should be legal to clone cellular telephones (in particular, as a small business activity) for customers who are already legitimate cellular subscribers, as opposed to those who are not subscribers.²²

11. **Channelization Requirements.** A majority of the commenters addressing this issue support our proposal.²³ Verizon, however, opposes the elimination of the channelization plan rule prior to the elimination of the analog service requirement. Verizon believes that some cellular carriers might start providing analog service using a different and incompatible analog channel plan, which would leave some subscribers without roamer service.²⁴ CenturyTel also opposes removal of the channelization plan because it believes that that the rule provides a legal basis for “frequency protection” from adjacent systems using digital technologies.

12. **Modulation Requirements and In-band Emissions Limitations.** We received a number of comments supporting various aspects of our proposal to a number of technical specifications for, *inter alia*, the performance of audio filter and deviation limiter circuitry in analog cellular telephones, and adjustment of the modulation levels in analog cellular telephones.²⁵ One commenter states that section 22.915 should be eliminated because the rule’s requirements are specific to the AMPS analog compatibility standard, and, as such, are contrary to the goal of allowing carriers to implement the technologies of their choice, and stifles the development of technologically advanced systems.²⁶ Certain commenters, however, object to the specific language we proposed for the out-of-band emission limit measurement rule in section 22.917.²⁷ These parties point out that implementation of the measurement resolution bandwidth specified in the proposed rule would have the effect of imposing a stricter out-of-band emission limit than that which currently applies.²⁸ A few commenters submitted alternative

¹⁹ Verizon Comments at 24-25.

²⁰ CenturyTel Comments at 5; Verizon Comments at 17-18.

²¹ CenturyTel Comments at 5.

²² ICSA/MT Communications Comments at 3-6; ICSA/MT Communications Reply Comments at 5-8. Such cloning makes it technically possible for these subscribers to use one or more additional cellular telephones (which ICSA refers to as “extension cellular telephones”) on a cellular system without the carrier’s knowledge, and thereby avoid being billed monthly fees (other than per-minute usage charges) that the carrier normally charges for additional cellular telephones. ICSA ascribes various benefits to the use by legitimate subscribers of cloned telephones, including the ability to have multiple cellular telephones with the same telephone number (for example a powerful vehicular telephone and a hand-held portable telephone). There are also significant operational limitations, however, that make the claimed benefits questionable. For example, the legitimate cellular telephone and the cloned cellular generally cannot be turned on at the same time without triggering the carrier’s fraud-detection systems, which could result in denial of service to both telephones.

²³ Ericsson Comments at 6; Cingular Comments at 17; CTIA Comments at 15; TIA Comments at 6.

²⁴ Verizon Comments at 19; Verizon Reply Comments at 10.

²⁵ TIA Comments at 14-15; TIA Comments at 4 (supports proposal to remove in-band emissions limits); Western Wireless (supports proposal to remove rules relating to 22.915).

²⁶ Ericsson Comments at 7.

²⁷ Cingular Comments at 10-14; Ericsson Comments at 7-11; Qualcomm Comments at 6-8; TIA Comments at 6-10; Sprint Reply Comments at 13-14.

²⁸ Cingular Comments at 10-11; Ericsson Comments at 7-11; Qualcomm Comments at 6-8; TIA Comments at 6-10; Sprint Reply Comments at 13-14.

language which more accurately reflect our intended goal of harmonizing certain procedures in the wireless communications services (WCS), personal communications services (PCS) and cellular services.²⁹

13. **Wave Polarization Requirement.** A majority of the commenters addressing this issue generally support relaxation of the rule requiring electromagnetic waves radiated by transmitters to be vertically polarized because of the technical flexibility it will provide cellular carriers.³⁰ Ericsson notes that flexibility in polarization is beneficial in order to reduce multipath fading and to improve signal quality.³¹ Likewise, Cingular points out that eliminating the vertical polarization requirement will permit carriers to reduce the antenna space needed on towers, thereby benefiting carriers as well as the public by fostering more aesthetically pleasing antenna sites, reducing the number of antennas required at a particular site (thereby reducing the need for local zoning clearance in many cases), permitting collocation of multiple carriers' facilities on the same tower, and reducing site deployment costs.³²

14. OnStar, however, objects to relaxing the rule on the basis that non-vertical antenna polarization could result in reduced RF coverage for its end users and impair telematics' ability to provide geographic location information for emergency services.³³ Specifically, OnStar notes that it utilizes analog cellular technology to provide location-based telematics service offerings, such as automatic crash notification, through systems embedded in vehicles of certain automobile manufacturers.³⁴ In this connection, OnStar has attempted to maximize the reception distance for its mobile equipment (which is important in rural areas, for example) based on the assumption that cell sites transmit vertically-polarized signals. OnStar expresses concern that relaxing the rule, particularly with respect to rural areas, would "adversely affect[] the delivery of automatic crash notification and other emergency and telematics services."³⁵ Likewise, U.S. Cellular objects to relaxing the requirement because of the "isolation" it provides to cellular systems from co-channel and adjacent-channel transmitters.³⁶ U.S. Cellular also notes that eliminating the vertical polarization requirement may inhibit the ability of AirCell to provide cellular services to commercial aviation.³⁷

²⁹ Cingular Comments at 14; Ericsson Comments at 9-10; TIA Comments at 9-10.

³⁰ Qualcomm Comments at 5; Ericsson Comments at 15; Verizon Comments at 29; Cingular Comments at 18-19; Western Wireless Comments at 12; CTIA Comments at 14; TIA Comments at 10.

³¹ Ericsson Comments at 15.

³² Cingular Comments at 19. We note that during the pendency of this rulemaking the Commercial Wireless Division of the Wireless Telecommunications Bureau granted a limited waiver of the vertical polarization requirement to Cingular. See *In the Matter of Cingular Wireless LLC Request for Waiver of the Cellular Vertical Wave Polarization Requirement*, Order, DA 02-558 (rel. Mar. 8, 2002). We have incorporated the comments filed in response to Cingular's waiver request in the record in this proceeding.

³³ OnStar Comments to Cingular Waiver Request at 6-7.

³⁴ *Id.* at 1-4.

³⁵ *Id.* at 6.

³⁶ U.S. Cellular Comments at 5.

³⁷ *Id.* at 6. U.S. Cellular partners with AirCell, to provide cellular communications to aircraft. AirCell partners provide service to aircraft via a waiver granted by the Wireless Telecommunications Bureau. Under the terms of this waiver, AirCell transmissions are secondary to terrestrial cellular communications. One of the means AirCell uses to ensure protection of terrestrial cellular systems is by using horizontally-polarized signals. The difference in polarization provides some level of isolation from systems using exclusively vertically polarized transmissions.

15 **Assignment of System Identification Numbers.** Commenters generally support our proposal to eliminate the procedures and rules set forth in section 22.941 by which the Commission administers cellular system identification numbers (SIDs). The commenters agree that there is no regulatory purpose in retaining SIDs as a term of cellular licenses. As Cingular and CTIA point out, there are no SID rules for PCS, Specialized Mobile Radio (SMR), or other CMRS, and this administrative function is carried out successfully within those radio services by the private sector without Commission involvement.

16 **Determination of Cellular Geographic Service Area.** Several cellular carriers oppose our intent to clarify the language in section 22.911(b) regarding the term "SAB" (service area boundary) in situations in which a carrier employs alternative methods to calculate the Cellular Geographic Service Area (CGSA) of its system. Cingular advocates that we in fact allow alternative propagation methods to be used for evaluating signal extensions into adjacent systems, in lieu of the formula in section 22.911(a). Verizon argues that when a carrier has determined its CGSA by use of an alternative method, it is "illogical and inconsistent" to require that cell SABs be used for all other purposes. Verizon argues that sometimes alternative methods are used to demonstrate that CGSAs should be smaller than predicted by the mathematical formula method, and that in these situations, the alternative method 32 dB μ V/m contour should be used instead of the cell SABs to determine whether there are signal extensions into the adjacent system's CGSA requiring consent.

17 **Incidental Services Rule.** Commenters generally agree that we should modify section 22.323 of our rules that permits carriers operating in the Public Mobile Radio Services to provide other communications services incidental to the primary public mobile service.³⁸ Commenters, on the other hand, believe that the provision in section 22.323 that states that *incidental services are permitted* should be retained. Several of the carriers addressing this issue point out that an express provision for incidental services is helpful in demonstrating to state commissions that certain services must be treated as CMRS exempt from state and local regulation of rates and entry.³⁹

C. Description and Estimate of the Number of Small Entities to which the Rules Will Apply.

18. The RFA directs agencies to provide a description of, and where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.⁴⁰ The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."⁴¹ In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.⁴² A "small business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of

³⁸ CenturyTel Comments at 6; CTIA Comments at 17; Cingular Comments at 21; Verizon Comments at 27; Verizon Reply Comments at 15; RTG Comments at 6-10; Western Wireless Comments at 14-15.

³⁹ CenturyTel Comments at 6; CTIA Comments at 17; Cingular Comments at 21; Verizon Comments at 27; Verizon Reply Comments at 15; RTG Comments at 6-10; Western Wireless Comments at 14-15.

⁴⁰ 5 U.S.C. § 603(b)(3).

⁴¹ 5 U.S.C. § 601(6).

⁴² 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).⁴³

19. This *Report and Order* results in rule changes that could affect small businesses that currently are or may become Cellular Radiotelephone Service providers that are regulated under Subpart H of Part 22 of the Commission's rules. In addition, changes to section 22.323 of the Commission's rules could affect service providers that are regulated under any provisions of Part 22 of the Commission's rules. These include, in addition to Cellular Radiotelephone Service providers, providers of Paging and Radiotelephone (Common Carrier Paging), Air-Ground Radiotelephone, Offshore Radiotelephone, and Rural Radiotelephone services. In addition, pursuant to section 90.493(b) of the Commission's rules, paging licensees on exclusive channels in the 929-930 MHz bands are subject to the licensing, construction, and operation rules set forth in Part 22.⁴⁴ As this rulemaking proceeding applies to multiple services, we will analyze the number of small entities affected on a service-by-service basis. In addition to service providers, some of the proposed rule changes may also affect manufacturers of cellular telecommunications equipment. We will include a separate discussion regarding the number of small cellular equipment manufacturing entities that are potentially affected by the proposed rule changes.

20. **Cellular Radiotelephone Service.** The SBA has developed a small business size standard for small businesses in the category "Cellular and Other Wireless Telecommunications."⁴⁵ Under that SBA category, a business is small if it has 1,500 or fewer employees.⁴⁶ According to the Bureau of the Census, only twelve firms from a total of 1,238 cellular and other wireless telecommunications firms operating during 1997 had 1,000 or more employees.⁴⁷ Therefore, even if all twelve of these firms were cellular telephone companies, nearly all cellular carriers were small businesses under the SBA's definition. In addition, we note that there are 1,807 cellular licenses; however, a cellular licensee may own several licenses. According to the most recent *Trends in Telephone Service* data, 806 carriers reported that they were engaged in the provision of either cellular service, PCS, or SMR telephony services, which are placed together in that data.⁴⁸ We have estimated that 323 of these are small under the SBA small business size standard.⁴⁹ Accordingly, based on this data, we estimate that not more than 323 cellular service providers will be affected by these revised rules.

21. **Paging.** The Commission has adopted, and the SBA has approved, a two-tier definition of small businesses in the context of auctioning licenses in the paging services. Under this definition, a small business is defined as either (1) an entity that, together with its affiliates and controlling principals, has average gross revenues for the three preceding years of not more than \$3 million, or (2) an entity that,

⁴³ 15 U.S.C. § 632.

⁴⁴ See 47 C.F.R. § 90.493(b).

⁴⁵ 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 513322.

⁴⁶ *Id.*

⁴⁷ U.S. Department of Commerce, U.S. Census Bureau, 1997 Economic Census, Information - Subject Series, Establishment and Firm Size, Table 5 - Employment Size of Firms Subject to Federal Income Tax at 64, NAICS code 513322 (October 2000).

⁴⁸ See *Trends in Telephone Service*, Industry Analysis Division, Common Carrier Bureau, Table 5.3 - Number of Telecommunications Service Providers that are Small Businesses (August 2001). Data found in *Trends in Telephone Service* is based on information filed by service providers on FCC Form 499-A worksheets, in combination with employment information obtained from Automated Reporting and Management Information System (ARMIS) and Securities and Exchange Commission filings as well as industry employment estimates published by the Bureau of Labor Statistics.

⁴⁹ *Id.*

together with affiliates and controlling principals, has average gross revenues for the three preceding calendar years of not more than \$15 million. The Commission has estimated that as of January 1998, there were more than 600 paging companies in the United States.⁵⁰ In the August 2001 *Trends in Telephone Service* data, 427 carriers reported that they were engaged in the provision of paging and messaging service; 407 of these firms identified themselves as having 1,500 or fewer employees.⁵¹ We do not have data specifying the number of these carriers that are not independently owned and operated or meet the small business thresholds set forth above, or the number of these carriers that are regulated under Part 22 of the Commission's rules, and thus are unable at this time to estimate with precision the number of affected paging carriers that would qualify as small business concerns under our definition. However, we estimate that the majority of existing paging providers qualify as small entities under our definition. Consequently, we estimate that there are up to approximately 600 currently licensed small paging carriers that may be affected by the rule changes set out in the *Report and Order*. Further in December 2001, 182 bidders placed high bids for 5,323 geographic area paging licenses in Auction No. 40.⁵² Applications remain pending as of the release of this *Report and Order*. Thus, in addition to existing licensees, the rule changes adopted in the *Report and Order* could affect paging licenses won in Auction No. 40.

22. **Air-Ground Radiotelephone Service.** The Commission has not adopted a definition of small business specific to the Air-Ground radiotelephone service.⁵³ Accordingly, we use the SBA definition applicable to radiotelephone companies, *i.e.*, an entity employing no more than 1,500 persons. There are approximately 24 licensees in the Air-Ground radiotelephone service, and the Commission estimates that almost all of them qualify as small entities under the SBA definition.

23. **Offshore Radiotelephone Service.** This service operates on several ultra high frequency (UHF) TV broadcast channels that are not used for TV broadcasting in the coastal area of the states bordering the Gulf of Mexico. At present, there are less than ten licensees in this service. The Commission has not adopted a definition of small business specific to the Offshore Radiotelephone Service. Accordingly, we use the SBA definition applicable to radiotelephone companies, *i.e.*, an entity employing no more than 1,500 persons. The Commission assumes, for purposes of this FRFA, that all licensees in this service are small entities, as that term is defined by the SBA.

24. **Rural Radiotelephone Service.** The Commission has not adopted a definition of small entity specific to the Rural Radiotelephone Service.⁵⁴ A significant subset of the Rural Radiotelephone Service is the Basic Exchange Telephone Radio Systems (BETRS).⁵⁵ We therefore use the SBA definition applicable to radiotelephone companies; *i.e.*, an entity employing no more than 1,500 persons. There are approximately 100 licensees in the Rural Radiotelephone Service, and the Commission estimates that almost all of them qualify as small entities under the SBA definition.

25. **Cellular Equipment Manufacturers.** Some of the actions adopted in the *Report and Order* will also affect manufacturers of cellular equipment. The Commission does not know how many

⁵⁰ Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, *Third Report*, 13 FCC Rcd 19746, 19792 (1998).

⁵¹ See *Trends in Telephone Service*, Industry Analysis Division, Common Carrier Bureau, Table 5.3 - Number of Telecommunications Service Providers that are Small Business (August 2001).

⁵² See "Lower and Upper Paging Bands Auction Closes: Winning Bidders Announced," *Public Notice*, 16 FCC Rcd 21821 (WTB 2001).

⁵³ Air-ground radiotelephone service is defined in section 22.99 of the Commission's rules, 47 C.F.R. § 22.99.

⁵⁴ Rural Radiotelephone Service is defined in section 22.99 of the Commission's rules, 47 C.F.R. § 22.99.

⁵⁵ BETRS is defined in sections 22.757 and 22.729 of the Commission's rules, 47 C.F.R. §§ 22.757, 22.729.

cellular equipment manufacturers are in the current market. The 1997 *Economic Census* provides that there were 1,089 communications-related equipment manufacturing companies as of 1997.⁵⁶ This category includes not only cellular equipment manufacturers, but television and AM/FM radio manufacturers as well. Under SBA regulations, a “radio and television broadcasting and wireless communications equipment manufacturing” company, which includes not only U.S. cellular equipment manufacturers but also firms that manufacture radio and television broadcasting and other communications equipment as well as electronic components, must have a total of 750 or fewer employees in order to qualify as a small business concern.⁵⁷ Although the exact number is unknown, the number of cellular equipment manufacturers is considerably lower than 1,089.

26. **Broadband Personal Communications Service.** The broadband PCS spectrum is divided into six frequency blocks designated A through F, and the Commission has held auctions for each block. The Commission has created a small business size standard for Blocks C and F as an entity that has average gross revenues of less than \$40 million in the three previous calendar years.⁵⁸ For Block F, an additional small business size standard for “very small business” was added and is defined as an entity that, together with their affiliates, has average gross revenues of not more than \$15 million for the preceding three calendar years.⁵⁹ These small business size standards, in the context of broadband PCS auctions, have been approved by the SBA.⁶⁰ No small businesses within the SBA-approved small business size standards bid successfully for licenses in Blocks A and B. There were 90 winning bidders that qualified as small entities in the Block C auctions. A total of 93 “small” and “very small” business bidders won approximately 40% of the 1,479 licenses for Blocks D, E, and F.⁶¹ On March 23, 1999, the Commission reaucted 347 C, D, E, and F Block licenses; there were 48 small business winning bidders. Based on this information, we conclude that the number of small broadband PCS licensees will include the 90 winning C Block bidders and the 93 qualifying bidders in the D, E, and F blocks plus the 48 winning bidders in the re-auction, for a total of 231 small entity PCS providers as defined by the SBA small business standards and the Commission’s auction rules. On January 26, 2001, the Commission completed the auction of 422 C and F Broadband PCS licenses in Auction No. 35. Of the 35 winning bidders in this auction, 29 qualified as “small” or “very small” businesses.⁶²

D. Description of Projected Reporting, Recordkeeping and Other Compliance Requirements

⁵⁶ U.S. Census Bureau, *1997 Economic Census, Manufacturing Subject Series*, at Table 3 – Detailed Statistics by Industry: 1997, NAICS code 334220 (October 2000).

⁵⁷ 13 C.F.R. § 121.201, NAICS code 334220.

⁵⁸ See Amendment of Parts 20 and 24 of the Commission’s Rules – Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap, WT Docket No. 96-59, *Report and Order*, 11 FCC Rcd 7824, paras. 57-60 (1996); see also 47 C.F.R. § 24.720(b).

⁵⁹ See Amendment of Parts 20 and 24 of the Commission’s Rules -- Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap, *Report and Order*, 11 FCC Rcd 7824, para. 60 (1996).

⁶⁰ See Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, from A. Alvarez, Small Business Administration, dated December 2, 1998.

⁶¹ FCC News, *Broadband PCS, D, E and F Block Auction Closes*, No. 71744 (rel. Jan. 14, 1997).

⁶² A number of licenses auctioned in Auction No. 35 are the subject of pending litigation; the associated applications remain in pending status. See *Nextwave Personal Communications, Inc. v. FCC*, 254 F.3d 130 (D.C. Cir. 2001), cert. granted 128 S.Ct. 1202 (Mar. 4, 2002) (Nos. 01-653, 01-657); In the Matter of Requests for Refunds of Down Payments Made in Auction No. 35, *Order*, FCC 02-99 (rel. Mar. 27, 2002).

27 We will require that, (1) three years from the effective date of this order and (2) four years from the effective date of this order, certain CMRS licensees and other entities file reports with the Commission.⁶³ In the reports, the carrier must either certify that, within their own markets, there are, at the time of filing, hearing aid-compatible digital devices available to and usable by persons with hearing disabilities for use with that carrier's digital network, or, if no such equipment is available at the time of filing, describe the extent to which, by the end of the fifth year, digital equipment will be available to and usable by persons with hearing disabilities, and describe how the public is being informed of their availability. If upon review of the filings, we determine that significant problems remain regarding access to mobile telephony by persons with hearing disabilities, we may find that the analog requirement will be removed only for technologies where hearing aid-compatible solutions are available, or that the sunset period will be extended for all carriers.⁶⁴

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered.

28 The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.⁶⁵

29 Because several commenters argued that certain entities, such as persons with hearing disabilities and small and regional carriers, may be harmed by the immediate removal of the analog requirement, we instituted a five-year transition period to ease the transition to digital technology. By establishing this five-year transition period, we take account of the potentially smaller resources available to small entities.

30 As stated earlier, the *Report and Order* concluded that several of the Commission's technical and anti-trafficking cellular rules are outdated. Therefore, modifying or eliminating these rules should decrease the costs associated with regulatory compliance for cellular service providers, provide additional flexibility in manufacturing cellular equipment, and also enhance the market demand for some products. Also, amending the incidental services rules will allow licensees in the Part 22 services greater flexibility in the types of services they offer. We note that the intent underlying our actions is to lessen the levels of regulation, consistent with our mandate for undertaking biennial reviews. We have therefore described, *supra*, actions intended to lessen the regulatory burden on carriers and equipment manufacturers, including small entities.

31 **Report to Congress:** The Commission will send a copy of the *Report and Order*, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act, *see* 5

⁶³ Licenses include Cingular, AT&T Wireless, and Verizon. We believe that it is appropriate to require these carriers to make reports because such carriers represent a reliable sample of each of the digital technologies in use. Small and rural carriers will likely utilize the same solutions deployed by the nationwide carriers to provide accessible digital technologies.

⁶⁴ For example, it may be that hearing aid compatibility solutions will be developed only for CDMA by the five-year mark, but not for any other digital technology. In that case, we may determine that the rule will be sunset only for carriers providing CDMA service.

⁶⁵ See 5 U.S.C. § 603.

APPENDIX C**List of Commenters****Comments**

Alexander Graham Bell Association for the Deaf and Hard of Hearing (AG Bell)
AT&T Wireless Services, Inc. (AT&T Wireless)
ATX Technologies, Inc. (ATX Technologies)
Bristol Bay Cellular Partnership (Bristol Bay)
CaseNewHolland Inc. (CNH)
Cellular Telecommunications & Internet Assn. (CTIA)
CenturyTel Wireless, Inc. (CenturyTel)
Cingular Wireless, LLC (Cingular)
Council of Organizational Representatives (COR)
Deere & Co. (Deere)
Deltec Telesystems, Inc.
Dixon, Alan
Dobson Communications Corp. (Dobson)
Ericsson, Inc. (Ericsson)
Hiscock, David
Independent Cellular Services Association and MT Communications (ICSA/MT Communications)
Kosterich, Eileen
League For the Hard of Hearing
McElvogue, Ronald E.
Missouri RSA No. 7 L.P. dba Mid-Missouri Cellular, Northwest Missouri Cellular L.P. dba Northwest Missouri Cellular, RSA 1 L.P. dba Cellular 29 Plus (Mid-Missouri Cellular et al.)
National Association of the Deaf (NAD)
OnStar Corp. (OnStar)
Qualcomm, Inc. (Qualcomm)
Qwest Wireless, L.L.C. (Qwest)
Rural Cellular Association (RCA)
Rural Telecommunications Group (RTG)
Secure Alert
Self Help For Hard of Hearing People (SHHH)
Sprint Spectrum L.P., dba Sprint PCS (Sprint)
Telecommunications for the Deaf, Inc. (Telecommunications for the Deaf)
Telecommunications Industry Association (TIA)
U.S. Cellular Corporation (U.S. Cellular)
Verizon Wireless, LLC (Verizon)
Vickery, Ronald H.
Western Wireless, Inc. (Western Wireless)
Wireless Consumers Alliance, Inc. (WCA)

Reply Comments

AT&T Wireless
ATX Technologies
CaseNewHolland Inc.
CNH

Cingular
 Council of Organizational Representatives (COR)
 Deaf
 Denson
 EDS Corp. (EDS)
 ICNA/MT Communications
 Kosterich, Eileen
 Leap Wireless International, Inc.
 Mercedes-Benz USA, LLC. (MBUSA)
 Mid-Missouri Cellular et al.
 N.E. Colorado
 NAD
 RCA
 RTG
 SHHH
 Sprint
 Telecommunications For the Deaf
 Verizon

Ex Partes or Late Filed Comments

A2Q, Inc.
 AARP
 ATX Technologies, Inc., et al.
 Allen, George (The Hon.)
 American Honda Motor Company (Honda)
 Audi of America (Audi)
 Breaux, John D. (The Hon.)
 Brownback, Sam (The Hon.)
 Carnahan, Jean (The Hon.)
 CTIA
 Cingular
 Cleland, Max (The Hon.)
 Dorgan, Byron L. (The Hon.)
 Edwards, John (The Hon.)
 Hoilings, Ernest F. (The Hon.)
 Los Angeles County Service Authority for Freeway Emergencies
 Mercedes-Benz USA, LLC
 National Association of EMS Physicians (NAEMSP)
 National Telecommunications and Information Administration (NTIA)
 Nelson, Bill (The Hon.)
 National Organization on Disability
 OnStar Corporation
 Rehabilitation Engineering Research Center on Telecommunications Access (RERC-TA)
 RCA
 RTG
 San Bernardino County – Service Authority for Freeways and Expressways
 Smith, Gordon (The Hon.)
 Sprint
 Toyota Motor North America, Inc. (Toyota)
 Transportation Agency for Monterey County

Wyden, Ron (The Hon.)
Zarick, Michael (late filed)

**Comments re: Request for Waiver of the Vertical Wave Polarization Requirement filed by
Cingular Wireless, LLC**

AirCell, Inc (AirCell)
Allgon Telecom
Andrew Corp.
AT&T Wireless
CSA Wireless
Cingular
Dobson
Meyers, Lou

STATEMENT OF COMMISSIONER MICHAEL J. COPPS

AGREEING IN PART, DISSENTING IN PART

RE: Year 2000 Biennial Review – Amendment of Part 22 of the Commission's Rules to Modify or Eliminate Outdated Rules Affecting the Cellular Radiotelephone Service and Other Commercial Mobile Radio Services (WT Docket No. 01-108).

Although there are numerous requirements in this proceeding that I can support eliminating, there are also some from which I must dissent. They are five in number. (1) the elimination of the analog standard and the possible effects on the deaf and hard-of-hearing; (2) the elimination of the requirement that cellular applicants demonstrate their financial ability to operate their system at a time when bankruptcies are threatening consumers; (3) the elimination of cellular anti-trafficking rules; (4) the decision to allow cellular licensees to claim they serve rural areas by merely serving roaming in those areas; and (5) the mischaracterization of our biennial review responsibilities

The Order threatens service to Americans with hearing disabilities

A year ago this Commission said, unambiguously, that “we will not take any action that would undermine service to persons with disabilities” in the Part 22 biennial review proceeding.¹ I must dissent from this Order because I believe it may do just that. At a minimum, this part of the Order is premature. Wireless services have become central to American’s lives. They are critical for our jobs and our safety. Indeed, for an increasing number of us, they are becoming our primary phones. Most Americans can now choose to have digital service. Digital service has tremendous advantages, and I am confident that such service will continue to usher in new products, more spectrum efficiency, and higher quality of service. Unfortunately, millions of American with hearing and speech disabilities currently have only analog devices available to them. Wireless companies have not brought hearing-aid and cochlear-implant compatible phones to the market, except in very limited circumstances.

Our goal must be to make all wireless technologies available to Americans with hearing and speech disabilities. Digital service must be compatible with hearing aids and cochlear implants. Accessibility must go hand in glove with advances in technology. The Commission has an opportunity to fulfill this commitment in a pending proceeding on rules governing hearing aid compatible telephones. We should complete an Order in that proceeding as rapidly as possible. I hope that each of my colleagues will make this a strong personal commitment.

Until digital service is a reality for Americans with hearing aids or cochlear implants, however, their only option is the analog standard. If this standard were to disappear prematurely, these citizens would be stranded without any wireless options. That is unacceptable. We must not eliminate the analog standard until hearing-aid-compatible devices are widely available. Yet today the majority finds that the analog standard is no longer “necessary,” even though compatible services are not yet available. It guesses that such devices will soon be available, but fails to support this prognostication with any record evidence. Based on this guess, the majority delays final elimination of the rule for five years. But make no mistake, the analog standard has been eliminated even if hearing-aid-compatible devices are not available five years from now – unless the Commission starts another proceeding and decides to reestablish the rule. My experience at the Commission leads me to believe that such a turn of events is unlikely. My question is: Why is it even necessary to put these citizens through an exercise that is neither

¹ *In the matter of Year 2000 Biennial Review – Amendment of Part 22 of the Commission's Rules to Modify or Eliminate Outdated Rules Affecting the Cellular Radiotelephone Service and Other Commercial Mobile Radio Services, Notice of Proposed Rulemaking*, 16 FCC Rcd. 11169 (2001).

necessary not timely? I am further troubled that the Order does not commit to complete the wireless hearing aid compatibility item by a date certain – we owe this to those of our fellow citizens who depend on these services.

Eliminating the analog requirement before compatible devices are available could leave millions of Americans without service in the near future. I am willing to eliminate the rule, but will not until the actual availability of accessible devices. Additionally, I think that setting elimination in process now takes away the best incentive manufacturers have to produce this equipment in volume. It would be better for the industry to know that the rule will not be eliminated until it has done its job.

The majority misstates the Commission's Biennial Review standard

The majority also applies an interpretation of the Commission's Biennial Review standard that I find contrary to law. Congress instructed the Commission to review its rules on a biennial basis and "determine whether any . . . regulation [of a provider of telecommunications service] is no longer necessary in the public interest as the result of meaningful economic competition between providers of [that] service."² This created a two-step process for the Commission when we review a regulation under this provision. First we must determine if there is "meaningful competition" in the relevant market. Then we must determine whether the existence of "meaningful competition" means that the regulation in question is "no longer necessary in the public interest."

So, here, even once the Commission determines that there is "meaningful competition" it must eliminate a regulation only if it finds that such elimination serves the "public interest." Congress did not limit this public interest inquiry in any way. The 1996 Act certainly does not say that for Biennial Review purposes "public interest" only means "promotes competition." The Act also nowhere even hints that "public interest" only refers to the policies originally referred to in creating the underlying regulation, even though the majority sees this in the "plain meaning" of the statute. "Public interest" here is left unmodified and therefore must be interpreted to mean the traditional Commission public interest standard.

The D.C. Circuit recently reinforced this fact. It stated in *Fox Television Stations v. F.C.C.*, that "nothing in §202(h) signals a departure from [the public interest's] historic scope," and that limiting the inquiry to competition alone is not consistent with the Telecommunication Act.³ Section 202(h) is directly tied to section 11, stating that "the Commission shall review its rules adopted pursuant to this section and all of its ownership rules biennially as part of its regulatory reform review under section 11." It goes on to use identical language to section 11, stating that the Commission "shall determine whether any of such rules are necessary in the public interest as a result of competition" and that "[t]he Commission shall repeal or modify any regulation it determines to be no longer in the public interest." To argue that the recent D.C. Circuit decision is not relevant to section 11 is suspect.

Congress directs us to facilitate the elimination of unnecessary regulation, but insists that we should do so only where such elimination serves the public interest. The majority, in explaining the section 11 standard, fails to recognize that a competition analysis is only part of its responsibility. Throughout the Order it makes decisions based solely on competitiveness findings, ignoring the duty to protect the larger public interest. This misuse of our section 11 standard is contrary to law. For these reasons I dissent to these parts of the Order.

² 47 U.S.C. § 161(a)(2).

³ 208 F.3d 1027, 1042 (D.C. Cir. 2002).

The majority eliminates financial safeguards, anti-trafficking rules, and threatens rural wireless service

This is a wide-ranging Order, covering many topics other than the analog standard. I agree with a large number of the decisions made today. They remove regulations that have outlived their usefulness or recognize where market or technology changes have made regulations obsolete. Three rules are eliminated, however, that are still very "necessary" in the public interest. I must dissent to the elimination of these protections.

- *The majority eliminates financial safeguards at a time of market turmoil.* Our rules currently require an applicant for a new cellular system, when it applies for a license, to make a demonstration of financial qualification.⁴ This means a company must show that it has financial commitments to construct and operate a cellular system for one year. The majority today decides to eliminate this financial safeguard at a time when we can least afford to do so, and at a time, I might add, when financial safeguards seem to be at a premium. The morning papers tell us that banks are looking for more evidence, not less, of financial viability before giving the green light to financial assistance. Perhaps we should take a clue. The fact that this rule applies only to cellular applicants, and only in a narrow set of circumstances, does not mean that it is not important. Rather than looking to cut away the few nets under the high-wire that American telecommunications consumers today walk, we would be better advised to build new precautions.
- *The majority eliminates anti-trafficking rules.* Our rules also currently protect consumers against the dangers of speculation and the trafficking of cellular licenses. There is a danger to American consumers when speculators obtain licenses with the intention of "flipping their license" for a quick profit rather than providing service. The spectrum is a public resource. Congress entrusted the Commission with the duty to manage the spectrum intending that we work to assign it to people who will promote the public interest. Our anti-trafficking rules require cellular licensees to provide service for one year before selling their license. This furthers Congress's goal, and does not seem too much to ask of those privileged to hold a cellular license. Nonetheless, the Commission eliminates this rule today.
- *The majority allows serving only "roamers" to count as rural service.* Our rules currently state that "[a] cellular system is not considered to be providing service to subscribers if . . . the system intentionally serves only roamer stations."⁵ By eliminating this rule, the majority now allows a carrier to serve no local residents of a rural area, but only people roaming while driving through. Rural communities are already at a disadvantage when it comes to wireless service. In many areas around the country only the major highways are covered, leaving communities off these highways unserved. By saying that a carrier can claim that an area they promised to serve in its license application is being served by denying all but roamers access to wireless services, we are further undermining rural service.

For all these reasons, I will approve this Order in part and dissent in part. I do want to thank the Bureau for its hard work in tackling these issues and I am pleased that I am in agreement with some, but not all, of its recommendations.

⁴ 47 C.F.R. § 22.937.

⁵ 47 C.F.R. § 22.946.

**CONSOLIDATED SEPARATE STATEMENT OF
COMMISSIONER KEVIN J. MARTIN,
APPROVING IN PART AND CONCURRING IN PART**

Re: Year 2000 Biennial Regulatory Review – Amendment of Part 22 of the Commission’s Rules To Modify or Eliminate Outdated Rules Affecting the Cellular Radiotelephone Service and other Commercial Mobile Radio Services, WT Docket No. 01-108, Report and Order (FCC 02-229) and Second Report and Order (FCC 02-247)

I support these Orders, which modify or eliminate a number of our Part 22 rules pursuant to the biennial review mandated by section 11 of the Communications Act. I concur, however, with respect to the Orders’ discussion of the legal standard for Section 11’s biennial review. I also write separately to emphasize my support for ensuring that people with hearing disabilities have sufficient access to wireless services.

Section 11 requires the Commission to review its regulations for providers of telecommunications service every two years and to “determine whether any such regulation is no longer necessary in the public interest as the result of meaningful economic competition between providers of such service.” 47 U.S.C. § 161(a). The provision then mandates that “The Commission shall repeal or modify any regulation it determines to be no longer necessary in the public interest.” *Id.* § 161(b).

While I agree with much of the Orders’ discussion of Section 11’s legal standard (*see* First Report and Order ¶ 4; Second Report and Order ¶ 6) – as well as the Orders’ application of the standard to the regulations at issue – I am concerned by the Orders’ failure to discuss the meaning of the term “necessary” in Section 11. In a similar context, the Commission has argued that the term “necessary” means only “useful” or “appropriate.” *See* FCC’s Petition for Rehearing or Rehearing *En Banc, Fox Television Stations, Inc. v. FCC*, Nos. 00-1222, *et al.*, 2002 WL 1343461, at 5 (D.C. Cir. Jun 21, 2002) (“Terms such as ‘necessary’ and ‘required’ must be read in their statutory context and, so read, can reasonably be interpreted as meaning ‘useful’ or ‘appropriate’ rather than ‘indispensable’ or ‘essential.’”). As I have argued elsewhere, I believe the term “necessary” should be read in accordance with its plain meaning, to mean something closer to “essential.”⁶ But at the very least, I think the Commission should clarify that the term means something more than merely “useful” or “appropriate.” Accordingly, I concur in the Orders’ discussion of Section 11’s legal standard.

I also wish to note my support for ensuring that people with hearing disabilities have sufficient access to wireless services. Currently, hearing disabled people must generally rely on analog wireless service, because most digital phones cause interference to most hearing aids and cochlear implants. For this reason, among others, the First Report and Order leaves in place the requirement that cellular carriers provide analog service for another five years. More importantly, that Order makes clear that – even after the five-year period – the Commission will not eliminate the analog requirement if hearing-aid compatible digital devices are still not available. This latter point was fundamental to my support of the item.

Ultimately, however, the Commission must ensure the availability of digital phones that are compatible with hearing aids and cochlear implants. Fixing the digital compatibility problem, rather than

⁶ *See* Separate Statement of Commissioner Kevin J. Martin, *Verizon Wireless’s Petition for Partial Forbearance from the Commercial Mobile Radio Services Number Portability Obligation*, Memorandum Opinion and Order, WT Docket No. 01-184, CC Docket No. 95-116 (adopted July 16, 2002); Separate statement of Commissioner Kevin J. Martin, *Implementation of the Cable Television Consumer Protection and Competition Act of 1992; Development of Competition and Diversity in Video Programming Distribution: Section 628(c)(5) of the Communications Act; Sunset of Exclusive Contract Prohibition*, Report and Order, CS Docket No. 01-290 (adopted June 13, 2002).

relegating the hearing disabled community to analog phones, is the real solution. I thus look forward to tackling that issue and completing our proceeding under the Hearing Aid Compatibility Act of 1988. Completing that proceeding should be, and is, a priority for the Commission.