

unable to determine the technical feasibility of GEM's claimed improvement over error control and interleaving because Global did not submit the technical details of its claim for the public record; and that the technologies that the Commission was able to identify in Global's proposal all are currently available. Therefore the Commission concluded that Global had failed to demonstrate the innovativeness of its proposal.

66. In its Petition for Reconsideration, Global argues that Mtel's request received unequal treatment; that Global's "Pagentry" device has been approved for a patent; that the Commission appears in part to base its decision to award pioneer's preferences on the policies underlying the patent laws and that it ignored this in the decision; that the Commission overlooked the importance of the device used by the end user in a communications system; and that the Commission failed to consider properly the efficiencies of Global's proprietary protocol and character transmission system. Global argues that it submitted substantial information demonstrating the feasibility of its proposal and offered to submit additional proprietary information if the Commission would maintain its confidentiality. Therefore, Global argues that the Commission failed to properly evaluate the documentation submitted and made its decision without requesting the patent application material. No party commented on Global's petition.

67. We disagree that Mtel's request received unequal treatment. In the Report and Order, we stated that Mtel's development of technology permitting attainment of 24 kbps data rates for a nationwide simulcast paging and messaging integrated service is a significant communications innovation. We went on to state that Mtel has demonstrated that its proposed NWN is innovative, spectrum efficient, and technically feasible.<sup>40</sup> We also do not agree that a device that uses existing technologies to connect to the public switched telephone network (PSTN) qualifies as innovative under our rules. Third, our pioneer's preference policy is not based on the policies underlying the patent laws. In the Pioneer's Preference Report and Order, we explicitly stated that while portions of a broad-based radio service may be patentable, including both equipment and specific services the entire broad-based radio service would not be patentable.<sup>41</sup> We recognized that patentability is not necessarily probative of whether a pioneer's preference request should be granted. Global determined not to submit material it deemed proprietary, and we do not find, based on Global's submissions, that Global has demonstrated that its system is

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<sup>40</sup> See Report and Order, 8 FCC Rcd 7162 at 7172-7175 (1993).

<sup>41</sup> See Report and Order, 6 FCC Rcd 3488 at 3490 (1991).

innovative. Accordingly, we deny Global's petition for reconsideration.

#### CONCLUSION

68. With the adoption of this Memorandum Opinion and Order, we finalized the spectrum allocation, service rules, and pioneer's preference decisions for the narrowband PCS service. Also, today we have adopted a Second Report and Order in GN Docket No. 93-252, which, inter alia, implements Section 332 of the Communications Act as it affects the licensing of PCS.<sup>42</sup> Adoption shortly of a report and order prescribing regulations to implement Section 309(j) of the Communications Act pertaining to competitive bidding will complete the regulatory framework for this new narrowband PCS service.

#### ORDERING CLAUSES

69. Accordingly, IT IS ORDERED that Part 99 of the Commission's Rules IS AMENDED as specified in the Appendix, effective 30 days after publication in the Federal Register.

70. IT IS FURTHER ORDERED THAT the petitions for clarification or reconsideration filed by Mobile Telecommunication Technologies, Inc., Paging Network, Inc., and PageMart, Inc. ARE GRANTED IN PART as discussed supra and ARE DENIED in all other respects.

71. IT IS FURTHER ORDERED THAT the petitions for reconsideration filed by Echo Group L.P., Freeman Engineering Associates, Inc., and Global Enhanced Messaging Venture ARE DENIED and that the petition for reconsideration filed by Advanced Cordless Technologies, Inc. IS DISMISSED.

72. IT IS FURTHER ORDERED That the licensing bureau shall impose the following conditions on the license received by Mobile Telecommunication Technologies, Inc. (Mtel) pursuant to its pioneer's preference award: 1) Mtel shall be required to build a system that substantially uses the design and technologies upon which its preference award was based; and 2) Mtel must hold its license for three years or until the construction requirements applicable to the five-year build-out period specified in Section 99.103 of the Commission's Rules have been satisfied, whichever occurs first. IT IS FURTHER ORDERED THAT the petitions filed by Pacific Bell, Paging Network, Inc., and PageMart, Inc. addressing

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<sup>42</sup> See Second Report and Order, GN Docket No. 93-252, FCC 94-31, adopted February 3, 1994.

Mtel's pioneer's preference award ARE GRANTED to this extent and, in all other respects, ARE DENIED.

73. This action is taken pursuant to Sections 4(i), 7(a), 302, 303(c), 303(f), 303(g), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 157(a), 302, 303(c), 303(f), 303(g), and 303(r).

FEDERAL COMMUNICATIONS COMMISSION

*William F. Caton*  
William F. Caton  
Acting Secretary

**Appendix: Revised Rules**

Part 99 of Title 47 of the Code of Federal Regulations is amended to read as follows:

**PART 99 -- PERSONAL COMMUNICATIONS SERVICES**

1. The authority citation in Part 99 is amended to read as follows:

**AUTHORITY: Secs. 4, 301, 302, 303, and 332, 48 Stat. 1066, 1082, as amended; 47 U.S.C. Sections 154, 301, 302, 303, and 332, unless otherwise noted.**

2. The table of contents for Part 99 is amended by removing Section 99.13, adding Sections 99.101 and 99.129, and revising Sections 99.102 and 99.130 as follows:

\* \* \* \* \*  
99.13 [DELETED]  
\* \* \* \* \*  
99.101 Multiple ownership restrictions.  
99.102 Service areas.  
\* \* \* \* \*  
99.129 Frequencies.  
99.130 Paging response channels.  
\* \* \* \* \*

3. Section 99.13 is removed.

4. Section 99.101 is added to read as follow:

**§ 99.101 Multiple ownership restrictions.**

Narrowband PCS licensees shall not have an ownership interest in more than three of the 26 channels listed in Section 99.129 in any geographic area. For the purpose of this restriction, a narrowband PCS licensee is any person or entity with an ownership interest of five or more percent in an entity holding a narrowband PCS license.

5. Section 99.102 is revised to read as follows:

**§ 99.102 Service areas.**

Narrowband PCS service areas are nationwide, regional, Major Trading Areas (MTAs) and Basic Trading Areas (BTAs) as defined below. MTAs and BTAs are based on the Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39 ("BTA/MTA Map"). Rand McNally organizes the 50 States and the District of Columbia into 47 MTAs and 487 BTAs. The BTA/MTA Map is available for public inspection at the Office of Engineering

and Technology's Technical Information Center, Room 7317, 2025 M Street, N.W., Washington, D.C.

(a) The nationwide service area consists of the fifty states, the District of Columbia, American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and United States Virgin Islands.

(b) The regional service areas are defined as follows:

(1) Region 1 (Northeast): The Northeast Region consists of the following MTAs: Boston-Providence, Buffalo-Rochester, New York, Philadelphia, and Pittsburgh.

(2) Region 2 (South): The South Region consists of the following MTAs: Atlanta, Charlotte-Greensboro-Greenville-Raleigh, Jacksonville, Knoxville, Louisville-Lexington-Evansville, Nashville, Miami-Fort Lauderdale, Richmond-Norfolk, Tampa-St. Petersburg-Orlando, and Washington-Baltimore; and, Puerto Rico and United States Virgin Islands.

(3) Region 3 (Midwest): The Midwest Region consists of the following MTAs: Chicago, Cincinnati-Dayton, Cleveland, Columbus, Des Moines-Quad Cities, Detroit, Indianapolis, Milwaukee, Minneapolis-St. Paul, and Omaha.

(4) Region 4 (Central): The Central Region consists of the following MTAs: Birmingham, Dallas-Fort Worth, Denver, El Paso-Albuquerque, Houston, Kansas City, Little Rock, Memphis-Jackson, New Orleans-Baton Rouge, Oklahoma City, San Antonio, St. Louis, Tulsa, and Wichita.

(5) Region 5 (West): The West Region consists of the following MTAs: Honolulu, Los Angeles-San Diego, Phoenix, Portland, Salt Lake City, San Francisco-Oakland-San Jose, Seattle (including Alaska), and Spokane-Billings; and, American Samoa, Guam, and the Northern Mariana Islands.

(c) The MTA service areas are based on the Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39, with the following exceptions and additions:

(1) Alaska is separated from the Seattle MTA and is licensed separately.

(2) Guam and the Northern Mariana Islands are licensed as a single MTA-like area.

(3) Puerto Rico and the United States Virgin Islands are licensed as a single MTA-like area.

(4) American Samoa is licensed as a single MTA-like area.

(d) The BTA service areas are based on the Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39, with the following additions: American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and the United States Virgin Islands are licensed separately as BTA-like areas.

6. Section 99.103 is revised to read as follows:

**§ 99.103 Construction requirements.**

(a) Nationwide narrowband PCS licensees shall construct base stations that provide coverage to a composite area of 750,000 square kilometers or serve 37.5 percent of the U.S. population within five years of initial license grant date; and, shall construct base stations that provide coverage to a composite area of 1,500,000 square kilometers or serve 75 percent of the U.S. population within ten years of initial license grant date.

(b) Regional narrowband PCS licensees shall construct base stations that provide coverage to a composite area of 150,000 square kilometers or serve 37.5 percent of the population of the service area within five years of initial license grant date; and, shall construct base stations that provide coverage to a composite area of 300,000 square kilometers or serve 75 percent of the service area population within ten years of initial license grant date.

(c) MTA narrowband PCS licensees shall construct base stations that provide coverage to a composite area of 75,000 square kilometers or 25 percent of the geographic area, or serve 37.5 percent of the population of the service area within five years of initial license grant date; and, shall construct base stations that provide coverage to a composite area of 150,000 square kilometers or 50 percent of the geographic area, or serve 75 percent of the population of the service area within ten years of initial license grant date.

(d) BTA narrowband PCS licensees shall construct at least one base station and begin providing service in its BTA within one year of initial license grant date.

(e) In demonstrating compliance with the above construction requirements, licensees must base their calculations on signal field strengths that ensure reliable service for the technology utilized.

(1) For the purpose of this section, the service radius of a base station may be calculated using the following formula:

$$d_{km} = 2.53 \times h_m^{0.34} \times p^{0.17}$$

where  $d_{km}$  is the radial distance in kilometers,  
 $h_m$  is the antenna HAAT of the base station in meters, and  
 $p$  is the e.r.p. of the base station in watts.

(2) Alternatively, licensees may use any service radius contour formula developed or generally used by industry, provided that such formula is based on the technical characteristics of their system.

(f) Upon meeting the five and ten year benchmarks in paragraphs (a), (b) and (c) of this section, licensees shall file a map and other supporting documentation that demonstrates compliance with the geographic area or population coverage requirement. BTA

licensees shall file a statement indicating commencement of service. The filing must be received at the Commission on or before expiration of the relevant period.

(g) If the sale of a license is approved, the new licensee is held to the original build-out requirement.

(h) Failure by a licensee to meet the above construction requirements shall result in forfeiture of the license and ineligibility to regain it.

NOTE: Population-based construction requirements contained in this section shall be based on the 1990 census.

7. Section 99.129 is added to read as follows:

**§ 99.129 Frequencies.**

The following frequencies are available for narrowband PCS.

(a) Eleven frequencies are available for assignment on a nationwide basis as follows:

(1) Five 50 kHz channels paired with 50 kHz channels:

Channel 1: 940.00-940.05 and 901.00-901.05 MHz;  
Channel 2: 940.05-940.10 and 901.05-901.10 MHz;  
Channel 3: 940.10-940.15 and 901.10-901.15 MHz;  
Channel 4: 940.15-940.20 and 901.15-901.20 MHz; and,  
Channel 5: 940.20-940.25 and 901.20-901.25 MHz.

(2) Three 50 kHz channels paired with 12.5 kHz channels:

Channel 6: 930.40-930.45 and 901.7500-901.7625 MHz;  
Channel 7: 930.45-930.50 and 901.7625-901.7750 MHz; and,  
Channel 8: 903.50-930.55 and 901.7750-901.7875 MHz;

(3) Three 50 kHz unpaired channels:

Channel 9: 940.75-940.80 MHz;  
Channel 10: 940.80-940.85 MHz; and,  
Channel 11: 940.85-940.90 MHz.

(b) Six frequencies are available for assignment on a regional basis as follows:

(1) Two 50 kHz channels paired with 50 kHz channels:

Channel 12: 940.25-940.30 and 901.25-901.30 MHz; and,  
Channel 13: 940.30-940.35 and 901.30-901.35 MHz.

(2) Four 50 kHz channels paired with 12.5 kHz channels:

Channel 14: 930.55-930.60 and 901.7875-901.8000 MHz;  
Channel 15: 930.60-930.65 and 901.8000-901.8125 MHz;  
Channel 16: 930.65-930.70 and 901.8125-901.8250 MHz; and,  
Channel 17: 930.70-930.75 and 901.8250-901.8375 MHz.

(c) Seven frequencies are available for assignment on a MTA basis as follows:

(1) Two 50 kHz channels paired with 50 kHz channels:

Channel 18: 940.35-940.40 and 901.35-901.40 MHz; and,  
Channel 19: 940.40-940.45 and 901.40-901.45 MHz.

(2) Three 50 kHz channels paired with 12.5 kHz channels:

Channel 20: 930.75-930.80 and 901.8375-901.8500 MHz;  
Channel 21: 930.80-930.85 and 901.8500-901.8625 MHz; and,  
Channel 22: 930.85-930.90 and 901.8625-901.8750 MHz.

(3) Two 50 kHz unpaired channels:

Channel 23: 940.90-940.95 MHz; and,  
Channel 24: 940.95-941.00 MHz.

(d) Two 50 kHz channels paired with 12.5 kHz channels are available for assignment on a BTA basis:

Channel 25: 930.90-930.95 and 901.8750-901.8875 MHz; and,  
Channel 26: 930.95-931.00 and 901.8875-901.9000 MHz.

8. Section 99.130 is revised to read as follows:

**§ 99.130 Paging response channels.**

(a) The channels listed in paragraphs (b) and (c) of this section are available to paging licensees licensed pursuant to Parts 22 and 90 of this chapter as of June 24, 1993, and which operate at least one base station within the service area for which the licensee requests such a channel. These channels shall be used only in paired communications with existing paging channels to provide mobile-to-base station communications. Eligible paging licensees may hold licenses for a maximum of two of these channels within the same geographic area. These licenses are not counted toward the multiple ownership restrictions of section 99.101.

(b) The following four 12.5 kHz unpaired channels are available for assignment on a MTA basis:

901.9000-901.9125 MHz;  
901.9125-901.9250 MHz;  
901.9250-901.9375 MHz; and,  
901.9375-901.9500 MHz.

(c) The following four 12.5 kHz unpaired channels are available for assignment on a BTA basis:

901.9500-901.9625 MHz;  
901.9625-901.9750 MHz;  
901.9750-901.9875 MHz; and,  
901.9875-902.0000 MHz.

9. In order to correct a typographical error, Section 99.133(a)(1)(ii) is revised to read as follows:

**§ 99.133 Emission limits.**

(a) \* \* \*

(1) \* \* \*

(ii) On any frequency outside the authorized bandwidth and removed from the edge of the authorized bandwidth by a displacement frequency ( $f_d$  in kHz) of more than 40 kHz: at least  $43 + 10 \text{ Log}_{10} (P)$  decibels or 80 decibels, whichever is the lesser attenuation.

\* \* \* \* \*

**SEPARATE STATEMENT**

**OF**

**COMMISSIONER ANDREW C. BARRETT**

**RE:** Narrowband Personal Communications Services (GEN Docket No. 92-100 and ET Docket No. 92-100)

In this Memorandum Opinion and Order, the Commission adopts changes that reflect the reconsideration and clarification of the Commission's rules and pioneer's preference awards for narrowband PCS at 901-902, 930-931, and 940-941 MHz, as established in the First Report and Order in this proceeding. In particular, the provisions of the Memorandum Opinion and Order include: (1) revising the plan for licensing areas to provide larger regional and local service areas; (2) providing coverage and build-out requirements that will allow licensees to choose between population coverage requirements or the existing geographic coverage requirements; and (3) affirming the pioneer's preference granted to Mobile Telecommunications Technologies, Inc. ("MTel"), subject to certain conditions.

With respect to the distribution of varying sizes of license areas for narrowband PCS licensees, I support the Commission's action as a reasonable response to the issues raised in the reconsideration record. I write separately to emphasize that I am especially interested in the provisions that ensure that all licensees will be able to utilize flexible mechanisms -- such as management contracts or other franchising arrangements -- in fulfilling their requirements to provide narrowband PCS service. In this regard, I believe that allowing for these flexible mechanisms will promote greater geographic coverage and participation by a broad group business interests. In addition, the 2 BTA licensed retained from the prior structure will provide opportunities for small market service or additional spectrum for larger operators seeking to tailor service in particular markets.

I also believe that the coverage and build-out requirements are reasonable to the extent that licensees will have a choice of population or geographic coverage. Again, given the number of licenses provided under the revised structure, I am especially interested that the rules could result in a broad but reasonable framework for providing narrowband PCS service in a timely manner.

Finally, I am satisfied with the award of a pioneer's preference to MTel, and I support the license conditions attached to the extent that MTel begins to provide service substantially as proposed and for which it was awarded the preference. In addition, I am interested in closely reviewing comments on the economic and public policy merits of whether pioneer's preference awardees -- or, more specifically, MTel -- should become subject to different requirements than other narrowband PCS licensees.