

DOCKET FILE COPY ORIGINAL RECEIVED

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

MAY 5 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)
)
 Amendment of Part 90 of the)
 Commission's Rules To Provide)
 for the Use of the 220-222 MHz Band) PR Docket No. 89-552
 by the Private Land Mobile)
 Radio Service)
)
 Implementation of Sections 3(n) and 332)
 of the Communications Act) GN Docket No. 93-252
)
 Regulatory Treatment of Mobile Services)
)
 Implementation of Section 309(j) of the)
 Communications Act -- Competitive) PP Docket No. 93-253
 Bidding)

PETITION FOR PARTIAL RECONSIDERATION

Glenayre Technologies, Inc. ("Glenayre"), through counsel and pursuant to Section 1.106 of the Commission's Rules, 47 C.F.R. §1.106, hereby respectfully requests partial reconsideration of the Commission's Third Report and Order in the above-captioned proceeding.¹

Glenayre is a worldwide producer of telecommunications equipment and related software used in wireless personal communications service ("PCS") markets, including wireless messaging, voice processing, mobile data systems and point-to-point wireless interconnection products. Glenayre is included in the NASDAQ-100 Index and is a leading manufacturer of paging technology

¹Third Report and Order; Fifth Notice of Proposed Rule Making, PR Docket No. 89-552, 62 FR 18536 (April 3, 1997).

worldwide. Glenayre participated previously in this proceeding as an applicant for the frequencies designated for nationwide authorizations.²

Glenayre is pleased that the Commission has decided to permit 220 MHz licensees to operate paging systems on a primary basis.³ In addition, the Commission's decisions to permit licensees to aggregate contiguous channels⁴ and use a "flexible" emissions mask⁵ will support an effort by licensees to use the most efficient technology for their chosen service offering.

However, Glenayre believes that there are two rules, which were not changed by the Commission in the Third Report and Order, which need to be amended to allow the most efficient use of the spectrum, particularly when such spectrum is utilized for paging services. In addition, as shown below, the Commission's adoption of an efficiency standard, while well-intentioned, will prohibit the introduction of highly efficient, non-voice equipment.

Two of the rules which require amendment regard the Commission's maximum permissible ERP rules. First, there is little need for the 500 watt ERP limit on the base station frequency for the channels licensed on a nationwide basis. Since there are no

²Public Notice No. 14068, dated July 24, 1991.

³Third Report and Order at para. 95.

⁴Id. at para. 101.

⁵Id. at para. 122.

co-channel licensees, there is no need for limiting base station ERP (other than the special adjacent channel concerns in the 220 MHz band). For nationwide licensees, this artificial ERP limitation means additional costs because of the need to construct more base stations to cover the same geographic area.

In the Third Report and Order, the Commission briefly discussed whether to permit additional base station ERP for nationwide licensees. In response to SEA's objection, the Commission ultimately declined to modify its ERP rule.⁶ Glenayre understands and appreciates SEA's concern, however, Glenayre believes that a middle ground can be found that will limit adjacent channel interference and permit nationwide licensees flexibility in system design. Glenayre recommends that the Commission permit nationwide licensees to operate their base stations up to a limit of 1400 watts ERP (similar to the Commission's VHF paging rules) provided the transmitter is located at least 5 km from a fixed adjacent channel system. Systems within 5 km would be restricted to 500 watts ERP (or less, depending on distance), as provided in the Commission's existing rules. Glenayre believes that this change will accommodate both nationwide and adjacent channel licensees. The Commission could also create a sliding scale, similar to Section 90.729(a), which would reduce the maximum ERP for nationwide licensees down from 1400 watts as the height above

⁶Third Report and Order at para. 151.

average terrain increases.

Second, Glenayre disagrees with the Commission's decision to reject Metricom's request to raise the permissible ERP for nationwide licensee's fixed operations on the mobile frequency. Once again, since there are no co-channel interference concerns, the only reason to limit the ERP is to protect adjacent channel operations. It is Glenayre's belief that a similar sliding scale would protect adjacent channel operations. Glenayre is currently conducting a careful technical analysis to determine the impact of increased ERP for nationwide licensees on the mobile frequency to adjacent channels licensees, and Glenayre will present its analysis upon completion.⁷

Although the Commission has expressed the desire that the one-half of the license authorization not lay "dormant",⁸ limiting the mobile frequency ERP for fixed operation will preclude efficient one-way paging operation, especially for nationwide licensees. The Third Report and Order appears to represent the Commission's wish that licensees have the maximum flexibility to implement systems

⁷It is possible that Glenayre may determine that additional ERP on the mobile frequency may require a more stringent emission mask on the part of the nationwide licensee. In this event, if the nationwide licensee elects to utilize the tighter emission mask, the licensee should be permitted the ability to increase the transmitter ERP. In addition, Glenayre's research may yield results which would permit non-nationwide geographic licensees aggregating channels to utilize increased ERP through the use of a more stringent emission mask (and provided sufficient co-channel separation).

⁸Third Report and Order at para. 149.

designed to meet the demands of the marketplace, and to ensure the successful, competitive operation of these systems. However, arbitrary limits on the technical operation on non-dispatch systems will limit the implementation of such systems and limit their efficient operation. While adjacent and co-channel licensees must be protected from interference, the Commission must also be willing to consider creative solutions which accomplish both goals.

In the Third Report and Order, the Commission adopted an "efficiency standard" of one voice channel per 5 kHz of channel bandwidth for voice communications, and a data rate of at least 4,800 bits per second per 5 kHz of channel bandwidth for data communications.⁹ The Commission decided to phase out this standard as of December 31, 2001.

Glenayre does not object to the implementation of an achievable efficiency standard in order to ensure that highly efficient equipment is employed in this band. However, Glenayre believes that the Commission has turned the purpose efficiency backwards. Presently, there is no data equipment that meets the Commission's 220 MHz data efficiency standard. Glenayre expects, however, that such equipment can be successfully developed by the end of the decade. Therefore, equipment meeting the standard will only become available at about the time that the standard is eliminated. As a result, licensees will be forced to: (1) forego

⁹Third Report and Order at para. 116.

data equipment and implement only voice equipment; (2) construct with voice equipment to meet construction deadlines, then deconstruct the voice equipment and construct data equipment when data equipment meeting the standard becomes available; or (3) delay constructing the system until data equipment meeting the standard becomes available.¹⁰ Any one of these options would not yield a competitive, healthy marketplace for the provision of service or the growth and development of the 220 MHz band.

It is Glenayre's recommendation that the Commission can accomplish its goal of permitting non-voice services in this band by reversing the spectrum efficiency standard. Specifically, Glenayre recommends that the Commission adopt, through its type acceptance process, a spectrum efficiency standard of 0.256 bps/Hz immediately, a higher standard of 1 bps/Hz by December 31, 2001, with the eventual efficiency standard of 2 bps/Hz by December 31, 2006. The standard could then be eliminated as of December 31, 2011.

Glenayre's proposal is consistent with the Commission's approach in the "Refarming" proceeding.¹¹ In that proceeding, the Commission used a phase-in of more spectrum efficient equipment through the type-acceptance process, first limiting new type-

¹⁰This third option would not be available for existing nationwide licensees, who would need to meet construction benchmarks well before the standard is met.

¹¹Report and Order and Further Notice of Proposed Rule Making, PR Docket No. 92-235, 10 FCC Rcd 10076 (1995) at para. 97.

acceptance applications to 12.5 kHz bandwidth, and later limiting bandwidth further to 6.25 kHz.

In addition, in the Refarming proceeding, the Commission set ultimate data standard of 4800 bits per second per 6.25 kHz of bandwidth.¹² This is a less restrictive standard than the standard which the Commission set for the 220 MHz band. Since it is envisioned by many that the same equipment would be used for both bands, the Commission should not set two different standards for its gauge of ultimate spectrum efficiency. Further, there is little value in setting a standard today which cannot be achieved for several years for a service which is operating today.

Glenayre's proposed initial efficiency standard of 0.256 bps/Hz will require utilization of the most efficient paging standard in wide commercial operation today. The spectrum efficiency standards for future years are sufficiently aggressive to initiate immediate development of more spectrally efficient data technologies and the rapid build-out of 220 MHz infrastructure.

¹²Memorandum Opinion and Order, PR Docket No. 92-235, 5 CR 999 (1996) at para. 19.

WHEREFORE, the premises considered, it is respectfully requested that the Commission RECONSIDER its rules and regulations as adopted in the Third Report and Order consistent with the views expressed herein.

Respectfully submitted,

GLENAYRE TECHNOLOGIES, INC.

By: Alan S. Tilles
Alan S. Tilles, Esquire

Its Attorney

MEYER, FALLER, WEISMAN
& ROSENBERG, P.C.
4400 Jenifer Street, N.W.
Suite 380
Washington, D.C. 20015
(202) 362-1100

Date: May 5, 1997