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FEDERAL COMMUNICATIONS COMMISSION
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September 27, 1995

Via Courier

Mr. William Caton
Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, D.C. 20554

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Dear Mr. Caton:

Transmitted herewith, on behalf of E.F. Johnson Company, is an original and four (4) copies of its Comments, for consideration in the Commission's Third Notice of Proposed Rule Making, *In the Matter of Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Service,* PR Docket No. 89-552, GN Docket No. 93-252, RM Docket No. 93-253, released August 28, 1995.

If any questions should arise related to this matter, kindly contact Russell Fox of this office, or the undersigned counsel.

Sincerely,

Susan H.R. Jones

Enclosure

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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

In the Matter of	)	
	)	
Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service	)	**PR Docket No. 89-552**
	)	
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 Bidding, 222-222 MHz	)	**PP Docket No. 93-253**

DOCKET FILE COPY ORIGINAL

To: The Commission

COMMENTS OF E.F. JOHNSON COMPANY

E.F. Johnson Company ("E.F. Johnson" or the "Company"), by its attorneys, pursuant to the provisions of Section 1.415 of the Rules and Regulations of the Federal Communications Commission ("FCC" or "Commission") hereby submits its Comments in response to the Third Notice of Proposed Rulemaking ("Third Notice") adopted in the above referenced proceeding in which the Commission proposes a new framework for the operation and licensing of systems in the 220-222 MHz band.[1]

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[1] In the Matter of Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, Second Memorandum Opinion and Order and Third Notice of Proposed Rulemaking, FCC Docket No. 89-552, Released August 28, 1995 (FCC 95-312).

I. INTRODUCTION

E.F. Johnson is a leading designer and manufacturer of radio communications and specialty communications products for commercial and public safety use. Founded over seventy years ago as an electronic components manufacturer, E.F. Johnson entered the radio communications equipment market in the late 1940's and is one of the three largest providers of land mobile radio systems in the United States. It produces base stations, vehicular mounted and portable transmitters that operate in various portions of the radio spectrum that are used by a variety of entities requiring communications capabilities. The Company manufactures products for licensees in among others, the 220 MHz frequency band.

In this proceeding, the Commission proposes rules for the licensing and operation of 220 MHz systems that are sharply divergent from those rules now governing that service. The Commission's actions are prompted primarily by the reclassification of mobile communications services as either private mobile radio services ("PMRS") or commercial mobile radio services ("CMRS"), as required by recent legislation.[2] E.F. Johnson, as one of the few manufacturers of type accepted equipment for the 220-222 MHz band, appreciates the Commission's efforts to make the band more attractive to licensees. To date, for a variety of reasons, actual use of the band has been moribund. Accordingly, the Company's significant research and development efforts in this band have unrewarded.

Significant regulatory action is needed to reinvigorate interest in the 220-222 MHz band. As the Company noted in its comments responsive to the Fourth Notice of Proposed Rulemaking in this proceeding, one element of such regulatory relief would be the elimination of uncertainty

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[2] Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI § 6002(b)(2)(A), 6002(b)(2)(B), 107 Stat. 312, 392 (1993).

concerning existing licensees' ability to modify their authorizations to relocate station transmitters. Equally as important, the Commission should act quickly in this phase of the proceeding, so that new licensees may receive authorizations and initiate service.

Based upon its continuing interest in the development of the 220-222 MHz band, E.F. Johnson is pleased to have this opportunity to submit the following comments.

II. COMMENTS

A. Channel Assignment and Service Area Rules

Today, 30 channels in the 220-222 MHz band remain unlicensed. Those channels were originally designated for nationwide, non-commercial systems. With only 200 channels of spectrum available at 220-222 MHz, this unlicensed spectrum is a significant element of the 220-222 MHz band, which has been unused. As a manufacturer, E.F. Johnson has been unable, therefore, to sell equipment in this large segment of the 220-222 MHz band. The Company urges the Commission to act expeditiously to license this spectrum. The potential production of equipment for this part of the band will certainly aid the Company, but will also aid all 220-222 MHz licensees, through the decreased equipment costs that may be caused by increased economies of scale in manufacturing.

The Commission has proposed to accept new applications for these 30 channels and relicense the spectrum through competitive bidding. The Company is largely indifferent as to whether the spectrum is used by commercial or non-commercial entities and how the spectrum is licensed. The Company is concerned that the spectrum be licensed for use as quickly as possible. E.F. Johnson notes, however, the troubling trend of the Commission failing to reserve spectrum for non-commercial purposes. It also generally disapproves of the Commission changing the

licensing rules for applicants, years after applications are submitted, when it is the Commission's lack of diligence in processing the applications that, in part, cause the need to change the licensing rules. Accordingly, while E.F. Johnson believes that the Commission has presented imperfect alternatives, it urges the FCC to act quickly regardless of the path taken.

The Commission proposes to set aside fifteen (15) of the non-nationwide channels for public safety operations. E.F. Johnson strongly supports this proposal. The Commission is required, by the Communications Act, to take into account the significant communications requirements of public safety entities.[3] The Commission's proposal will help fulfill its Congressionally directed responsibility. The Company has already received significant interest from public safety entities in 220 MHz equipment.

The Commission also proposes to license all of the channels previously dedicated only for data operations for local and regional use, for either data or voice services. E.F. Johnson does not object to this proposed change. The Company perceives demand not so much for voice or data systems (although it sells more voice equipment), as it does for trunked facilities. So long as the Commission continues to allocate channels in a fashion that permits trunked operations, users should have the flexibility to choose voice or data transmissions. The Company also does not object to the licensing of non-nationwide voice or data systems on a regional or EA basis.

In offering its new channelization plan for regional and EA licenses, the Commission would create blocks of contiguous spectrum for new licensees. Phase I licensees are primarily licensed, however, on an interleaved basis, with authorizations containing five channels, each 30 channels apart. Accordingly, new licensees, to the extent that they are required to protect incumbent licensees, will need to protect more than one entity. This will pose coordination

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[3] 47 U.S.C. § 154(o).

problems between new and existing licensees. Coordination will have to be done with as many as five existing licensees at different locations. This could affect the value of the license. In the Company's experience, the 220-222 MHz band is considered desirable for trunked dispatch operation. The Commission should take no action, therefore, that would impede licensee's ability use trunking technology. Accordingly, the Commission should weigh the benefits of licensing contiguous spectrum against the utility of that spectrum to licensees who will be required to coordinate with many licensees in their service area. The Commission may wish to consider licensing the spectrum that is licensed on an interleaved basis today in that fashion in the future, while authorizing the spectrum that is not licensed on an interleaved basis for contiguous channel operations.

The Company does not foresee significant problems with the production of equipment using contiguous, as opposed to interleaved, channels. Licensees have found it difficult to use antenna combiners in trunked systems employing interleaved channels. However, it is not expected that this problem will be exacerbated by the use of contiguous channels in a trunking environment. The Company will continue to work with manufacturers of combiner equipment to overcome this difficulty.

B. Technical and Operational Rules

The Commission proposes to allow fixed, as well as secondary fixed operations in the 220-222 MHz band. While the Company supports the relaxation of the rules to permit fixed operations by Phase I and Phase II licensees, it questions the wisdom of licensing secondary fixed systems where there are primary operations. The Company's equipment can support fixed, as well as mobile transmissions. Using the technology for fixed use will increase its utility and offer more options for communications consumers. However, the use of secondary fixed

transmitters can only serve to degrade the quality of service enjoyed by the primary licensee on the service. Because of the excellent propagation characteristics of 220 MHz, even the relatively low power of the transmitters proposed for secondary use - 2 and 5 watts, are sufficient to cause interference to other licensees. Accordingly, E.F. Johnson suggests that entities wishing to use secondary fixed operations enter into an agreement with the primary licensee for the use of the channels in the affected area. In that fashion, the primary licensee can be aware of the use of the secondary, fixed units.

The Commission proposes that licensees be permitted to aggregate channels to form contiguous bands. However, as shown previously, we anticipate problems with this approach, through coordination and co-channel protection. The current use of the 100 local channels is primarily for narrowband trunked operations, promoting among the most spectrum efficient technology available. E.F. Johnson does not object to the aggregation of spectrum. However, aggregation for the sake of creating contiguous channels represents Commission abandonment of the original intent in allocating the 220-222 MHz band for land mobile use: to foster narrowband technology. Moreover, as noted above, the use of contiguous spectrum in the 100 channels now dedicated for local operations may be problematic. While the Company recognizes that contiguous spectrum may provide licensees with greater technology choice, the Commission should not take action that would discourage the use of narrowband trunked systems, which may be its most efficient use. Similarly, the Company does not object to the Commission permitting licensees in the 220-222 MHz band to operate paging stations. However, this liberalization may also dilute the development of narrowband trunked systems.

The Commission proposes new construction requirements for EA, regional and nationwide licenses. The Company favors the adoption of aggressive construction requirements,

which will foster the development of 220 MHz technology. If licensees fail to meet the construction requirements, licenses should be revoked and issued to new entities that will make productive use of the spectrum.

The Commission proposes field strength limits at EA and regional borders. Similarly, the Commission proposes measures designed to protect Phase I licensees from interference from Phase II licensees. The Company understands that the American Mobile Telecommunications Association ("AMTA") is currently evaluating the protection needed between co-channel 220 MHz licensees. Accordingly, it reserves the right to address the AMTA recommendations in reply comments submitted in this proceeding.

Nevertheless, it is apparent, without further study, that the Commission's presumptions concerning co-channel protection is inaccurate. 220-222 MHz systems propagate much further than the Commission anticipated. While the Commission plainly cannot change the 120 km separation requirement between Phase I licensees, it should modify the co-channel separation standard for Phase II licensees. The Company tentatively recommends, pending the outcome of AMTA's evaluation, the protection of a licensee's 28 dBu V/m contour. This coverage area more accurately signifies where a reliable signal may be received by a mobile unit affiliated with a licensee.

III. CONCLUSIONS

Activity in the 220 MHz band has been considerably less than the Commission or the industry anticipated. A large element of the inactivity is based upon the uncertain regulatory environment in which this service has existed. Accordingly, E.F. Johnson is pleased that the Commission is acting here to remove that uncertainty. The Company urges the FCC to act

expeditiously in completing this rulemaking proceeding, so that consumers can enjoy the significant benefits of 220 MHz technology.

In taking the actions proposed, the Commission should be mindful of the existing licensees that populate the band. Effective interference criteria, more realistic than those used today, must be developed, to ensure their protection. In addition, existing licensees have been authorized on interleaved channels, while the Commission proposes to issue authorizations for contiguous spectrum. While the Commission should promote operational flexibility, it should not make it more difficult for licensees to operate trunked dispatch systems, which will likely continue to be the predominant use of the spectrum.

WHEREFORE, THE PREMISES CONSIDERED, the E.F. Johnson Company hereby submits the foregoing comments and requests that the Commission act in a manner consistent with the views expressed herein.

Respectfully submitted,

E.F. JOHNSON COMPANY

By: _____

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Dated: September 27, 1995

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