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September 27, 1995

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

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

Re: **ROAMER ONE, INC.**
PR Docket No. 89-552
GN Docket No. 93-252
PP Docket No. 93-253
Comments of Roamer One, Inc.

Dear Mr. Caton:

Submitted herewith on behalf of Roamer One, Inc. ("Roamer"), are an original and nine (9) copies of its Comments to be filed in the above-referenced matter.

Kindly contact my office directly with any questions or comments regarding this submission.

Respectfully submitted,

William J. Franklin
Attorney for Roamer One, Inc.

Encs.
cc: Roamer One, Inc.

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF 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** **RM-8506**
	)	
Implementation of Sections 3(n) and 332 of the Communications Act -- Regulatory treatment of Mobile Services	)	**GN Docket No. 93-252**
Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, 220-222 MHz	)	**PP Docket No. 93-253**

To: The Commission

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COMMENTS OF ROAMER ONE, INC.

Roamer One, Inc. ("Roamer"), by its attorney and pursuant to Section 1.415 of the Commission's Rules, hereby comments on the Commission's proposal to use competitive bidding in licensing the second phase of 220-222 MHz Specialized Mobile Radio systems.[1/]

Roamer's Comments are limited to one issue: the proper protection to be afforded to existing ("Phase I") 220-222 MHz licensees by Phase II auction winners.[2/] As to the remaining issues raised by the 3d NPRM, Roamer adopts the Comments to be

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[1/] 220-222 MHz Competitive Bidding, 10 FCC Rcd ____ (FCC 95-312, released August 28, 1995) (Second Memorandum Opinion and Order and Third Notice of Proposed Rulemaking) ("3d NPRM"). The portions of this document which constitute the Second Memorandum Opinion and Order are now under review by the U.S. Court of Appeals for the D.C. Circuit. SunCom Mobile & Data, Inc., Petition for Review (filed September 14, 1995). The Comments do not address the merits of the decision under appellate review.

[2/] See 3d NPRM, ¶99.

filed by the American Mobile Telecommunications Association ("AMTA").[3/]

DESCRIPTION OF ROAMER

Roamer (formerly known as Simrom, Inc.) is a wholly owned subsidiary of Intek Diversified Corporation ("Intek"), a publicly traded Delaware corporation. Founded and staffed by experienced communications personnel, Roamer's sole business function is to construct and manage 220 MHz SMR systems across the country. Roamer has participated actively in the Commission's CMRS, Competitive Bidding, and 220-222 MHz rulemakings.

Roamer placed its first 220 MHz SMR system in operation during February 1994. Starting in August 1994, Roamer began placing equipment orders for the various systems it manages. At present, Roamer is operating approximately eighty-five (85) 220 MHz SMR systems, and has shipped RF equipment or begun installation for approximately fifty-five (55) more systems.

Roamer and Intek have entered into a contractual agreement with Simmonds Communications, Ltd ("SCL") for the supply of infrastructure equipment, technical assistance, and engineering

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[3/] Roamer is a member of AMTA's 220 MHz Council and participated in the formulation of AMTA's position. However, AMTA did not reach a consensus with respect to the Phase I protection issue, and Roamer believes it important to state its own position.

design concerning the build-out of 220 MHz transmitter sites managed by Roamer on behalf of a number of licensees.[4]

Thus, Roamer possesses a demonstrated expertise in the development, management, and operation of 220 MHz radio systems. For this reason, the Commission should accord extra weight to Roamer's Comments.

ROAMER'S COMMENTS ON THE FOURTH NOTICE OF PROPOSED RULEMAKING

Roamer previously filed comments on the Commission's proposal to permit the modification of existing authorizations in the 220-222 MHz band in the Private Land Mobile Radio Service.[5] As an introduction to these Comments, Roamer would like to highlight some relevant points from its earlier 220-222 MHz Comments:

- The Commission should adopt AMTA's proposal on the relocation of authorized Phase I 220-222 MHz systems, under which systems can be relocated up to 35 kilometers without the creation of any mutual exclusivity.[6]

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[4] Intek recently signed a letter of intent to acquire the wireless products division of NovAtel Communications Ltd., which acquisition will give Intek a state-of-the-art RF manufacturing facility to produce subscriber 220 Mhz radios for Roamer-managed systems and others. Intek also has signed definitive agreements to acquire the wireless businesses of SCL, which includes the SCL Systems Group (specializing in wide-area network development and large systems integration), Midland International Corporation (fourth largest supplier of land-mobile products in the United States), and Midland Europe Ltd. (which distributes Midland equipment to Canada and western Europe).

[5] Modification of 220-222 MHz Authorizations, 10 FCC Rcd ____ (FCC 95-381, released August 29, 1995) (Fourth Notice of Proposed Rulemaking) ("4th NPRM").

[6] Comments of Roamer One, Inc. (filed September 13, 1995) ("Roamer Comments") at 5-8.

- The Commission should not begin Phase II licensing until the Phase I modification process is complete.[7]

- The Commission should permit Phase I licensees to construct an unlimited number of fill-in transmitters within their authorized protection area.[8]

- The Commission should permit 220-222 MHz stations to propose directional antennas to enhance operational flexibility.[9]

With these points as background, Roamer will propose a 220-222 MHz co-channel protection standard will corresponds with industry experience and which would serve the public interest.

I. THE PUBLIC INTEREST WOULD BE BEST SERVED IF THE COMMISSION WERE TO ADOPT A 220-222 MHz CO-CHANNEL INTERFERENCE STANDARD WHICH REFLECTS ACTUAL COVERAGE FROM OPERATING SYSTEMS.

As the Commission correctly notes, it adopted the 120 kilometer co-channel spacing in 1991 based on its assumption that a 500 watt/150 meter 220-222 MHz station would "provide a service

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[7] Roamer Comments at 3-5. Roamer argued therein that it was not appropriate for the Commission to adopt new 220-222 MHz protection standards in the context of the Phase I modification proceedings. Obviously, the public interest would be best served if Phase I licensees complete their system build-outs under the existing rules. However, those standards will be required before Phase II licensing.

[8] Roamer Comments at 8. The Commission should provide protection for the licensee's initially authorized service contour for the longer of (a) the original five-year license term or (b) two years beyond the Commission's final adoption of a service-contour definition for 220-222 MHz licensees. Id. at 9-10. This would allow sufficient time for licensees to construct their modified systems and then use real-world coverage to determine whether fill-in transmitters will be required.

[9] Roamer Comments at 9. This will permit licensees to relocate primary transmitters and locate fill-in transmitters much closer to the boundaries of any authorized service contours, thus enhancing the licensees' ability to serve subscribers.

area with a 38 dBu contour at about 45 kilometers (28 miles)."[10] Obviously, at the time that assumption was made, there were no operating 220-222 MHz stations. Thus, this assumption, while reasonable at the time, has proven incorrect in practice.

A. Continued Use of Commission's Assumed (and Actually Incorrect) 45 Kilometer (28 Mile) Service Contour for 220-222 MHz Systems Does Not Serve the Public Interest.

Roamer's experience -- as is that of the entire 220-222 MHz industry -- is that **the typical 220-222 MHz system provides reliable service for roughly 40 miles (70 kilometers)**.[11] The physics of existing 220-222 MHz service make it irrational for the Commission only to provide interference protection for the first 28 miles of a 40-mile service contour. Because the area of a circle is proportional to the square of its radius, the Commission is proposing to protect 49 percent -- less than half -- of the Phase I licensee's service area.[12]

The Commission has articulated (4th NPRM, ¶9) a "policy goal of facilitating the delivery of [220-222 MHz] service to consumers." It would be irrational to authorize co-channel interfer-

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[10] 3d NPRM, supra, ¶98 & n.148, citing 220 MHz Report and Order, 6 FCC Rcd 2356, 2371 (1991) (¶115) (PR Docket No. 89-552), subseq. history omitted.

[11] A "typical" 220-222 MHz system would be at 100 watts ERP with an antenna height of 60 meters (200'), i.e., far less than the maximum permitted by the Commission's Rules.

[12] Mathematically, $28^2 / 40^2 = 49$ percent.

ence for more than half of the reliable service areas of operating 220-222 MHz systems.

This result would not serve anybody's interests: It would hurt the Phase I and Phase II licensees by subjecting their systems to harmful co-channel service within their actual service areas. It would hurt the Commission by increasing the likelihood of massive administrative litigation involving interference claims between adjacent 220-22 MHz systems. And, it would hurt the U.S. Treasury by reducing the perceived market value of Phase II 220-222 MHz licenses.

B. The Commission Should Provide Co-Channel Interference Protection on the Basis of a 28 dBu Service Contour.

In order to provide co-channel interference protection to a 220-222 MHz licensee's actual service contour, upon the completion of Phase I modification licensing the Commission should provide 10 dB of interference protection to each 220-222 MHz licensee's 28 dBu service contour. Under the Commission's model,[13] using a 28 dBu service contour would provide contour protection for roughly 60 kilometers (37 miles), a close approxi-

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[13] In all likelihood, the root cause of this problem is that the Commission's VHF television propagation model (which itself dates from the 1950's) provides inaccurate results when used to predict 220-222 MHz mobile wireless coverage. In the interests of simplicity, Roamer suggests adoption of a "corrected" dBu contour definition to offset the model's inaccuracies. The Commission has made similar corrections in other wireless services. See Unserved Area Cellular, 7 FCC Rcd 2442 (1992), subseq. history omitted (32 dBu contour replaces 39 dBu as the cellular service contour definition).

mation to the service actually being provided by 220-222 MHz systems today.[14]

Fundamental fairness requires that Phase I licensees receive protection consistent with the original 220-222 MHz licensing scheme.[15] While the Commission in 1991 might have based the original 120-kilometer spacing requirement on a predicted 38 dBu contour, the original 220-222 MHz Rules did not provide protection only to a 38 dBu contour. The Rules instead provided for the 120-kilometer spacing without regard to actual contours, a result which produced the 40-mile contours for reliable service now being provided by the industry. The 28 dBu contour proposed herein is consistent with the intent of the 1991 Rules and the original 120 kilometer spacing requirements for co-channel stations.

Finally, the Commission should define each protected 220-222 MHz contour on the basis of the maximum possible ERP and antenna height at each currently licensed site.[16] This would make 220-222 MHz licensing consistent with competitive services such as 800 MHz and 900 Mhz SMR. Further, this would not penalize

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[14] Roamer would also support closer spacing of co-channel stations by licensee consent (3rd NPRM, ¶99).

[15] Indeed, Section 316 of the Communications Act would appear to limit the Commission's discretion to reduce the protection from harmful electrical interference to be accorded to Phase I licensees.

[16] Thus, after a transition period, Phase I licensees who relocated their facilities would not have continuing interference protection for their original sites. See Roamer Comments at 9-10.

licensees who initially proposed a lower power with the realistic expectation that it could increased, if needed, by modification without violation of the existing 120 km separation criteria.

CONCLUSION

Accordingly, Roamer hereby respectfully requests that the Commission adopt rules for the protection to be afforded to existing ("Phase I") 220-222 MHz licensees by Phase II auction winners as proposed herein.

Respectfully Submitted,

ROAMER ONE, INC.

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