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June 18, 1997

Via Courier Delivery

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

93-252

Re: PR Docket No. 89-552
ComTech Communications, Inc.
Reply to Comments/Oppositions to Petition for Reconsideration

Dear Mr. Caton:

Transmitted herewith, on behalf of ComTech Communications, Inc. ("ComTech"), are an original and eleven copies of its "Reply" in the above-referenced proceeding.

Please date-stamp the enclosed "S&R" version of this pleading and return it to the courier delivering this package. Should there be any questions concerning this matter, please do not hesitate to contact the undersigned.

Sincerely,

Russ Taylor

Russ Taylor

Enclosures

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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	)	PP Docket No. 93-253

To: The Commission

Reply of ComTech Communications, Inc.

ComTech Communications, Inc. ("ComTech" or the "Company"), by its attorneys, pursuant to the provisions of Section 1.429 of the rules and regulations of the Federal Communications Commission ("FCC" or "Commission"), hereby submits its Reply, responding to certain comments filed in connection with ComTech's May 5, 1997, Petition for Reconsideration of the Commission's Third Report and Order[1] in the above-captioned proceeding.

[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*, PR Docket No. 89-552, Third Report and Order and Fifth Notice of Proposed Rule Making, FCC 97-57, released March 12, 1997 ("Third Report and Order").

I. Positions of the Parties

The comments filed in response to ComTech's Petition focus principally on ComTech's desire to potentially offer paging services in the 220 MHz band. ComTech, Metricom, Inc. ("Metricom"), Arch Communications Group, Inc. ("Arch") and Glenayre Technologies, Inc. ("Glenayre") favor rules that would promote the availability of paging and other services using 220 MHz spectrum. By contrast, INTEK Diversified Corp. ("INTEK") and SEA, Inc. ("SEA") oppose any rule changes that would make the 220 MHz band more hospitable for use by other than two-way mobile services. As the Commission is well aware, INTEK and SEA (or their affiliates) generally manufacture two-way dispatch equipment for the 220 MHz band. To the best of ComTech's knowledge, neither INTEK nor SEA manufacture, nor have they announced plans to manufacture, paging equipment.

Adoption of ComTech's position would better serve the public interest because it would give 220 MHz licensees an opportunity to compete against the vast array of commercial mobile radio services ("CMRS") offered by other carriers. SEA and INTEK, wary of losing equipment sales to paging manufacturers, prefer to view the 220 MHz service as frozen-in-time, a service that, despite legislatively-mandated changes in the regulation of the CMRS industry, was "designed for two-way dispatch operation." SEA and INTEK are free to manufacture and offer paging equipment. It appears, however, that rather than competing in the newly-opened marketplace for 220 MHz paging equipment, SEA and INTEK prefer to assist in the construction of regulatory obstacles[2] designed solely to protect their market share

[2] A notable example of how SEA and INTEK favor regulatory obstacles is their joint plea for the Commission to place waiver requests of the efficiency standard on public notice. Presumably, this will further enable SEA and INTEK to maintain their self-assumed guardianship over the introduction of paging services in the 220 MHz band.

at the expense of licensees and ultimately, the public. Accordingly, in its consideration of the petitions for reconsideration in this phase of the proceeding, the Commission should carefully choose between those ideas that promote competition and serve the public interest, and those ideas that inhibit competition and limit consumers' options.

II. Spectrum Efficiency Standard

ComTech's Petition urged the Commission to eliminate the spectrum efficiency standard for the paging services. By way of support, ComTech demonstrated that the Commission chose not to adopt narrowbanding requirements for the paging services affected by its refarming proceeding. SEA and INTEK oppose ComTech's position. SEA, for example, attempts to distinguish the Commission's inconsistent action in the refarming proceeding by claiming that an efficiency standard represents a step backwards for the 220 MHz service. SEA Comments at 8-9. SEA is simply wrong. Eliminating the efficiency standard for paging services would not create new inefficient uses of 220 MHz spectrum. Instead, it would permit the use of another technology, which today is most effectively offered over a 25 kHz channel, the efficiency of which cannot be measured in the same manner as the efficiency of two-way voice communications.

Attempting to distinguish the FCC's action in the refarming decision, SEA (without any support) asserts that paging transmitters are not retired as frequently as mobile transmitters and thus, there could have been no workable scheme to transition to more efficient technology for paging in the refarming bands (as the refarming proceeding required for two-way communications devices). SEA ignores the fact that the Commission could have,

but did not, require paging operators to transition to a more efficient technology, whether in a expeditious fashion or not, by the same methodology as it is requiring two-way licensees to migrate to new technology. However, as ComTech noted in its Petition, the Commission has publicly stated that paging technology is likely not feasible on channels narrower than 25 kHz. SEA's comments do not rebut this point. Accordingly, the only logical rationale for the Commission's decision in the refarming decision is the recognition that operation of paging systems over 25 kHz channels (rather than 12.5 or 6.25 kHz channels) is the most efficient use of the spectrum for paging purposes. In any event, SEA's *post hoc* rationalization of the Commission's exemption of paging from the narrowbanding requirements of the refarming proceeding was not mentioned or ratified by the Commission.

INTEK urges the Commission to maintain its spectrum efficiency standard, claiming that ComTech's assertion that no paging equipment can meet the standard is speculative because manufacturers have not had an opportunity to produce paging equipment for the 220 MHz service. INTEK's position fails to recognize that paging equipment meeting the efficiency standard is not currently in use other bands such as VHF or 900 MHz. In those bands, carriers that are installing new paging systems or upgrading existing facilities are often using Flex technology, which operates over 25 kHz channels. Manufacturers will plainly not have a special incentive to design and immediately offer more efficient technology for 220 MHz than they do today in other bands. INTEK appears to suggest that 220 MHz licensees desiring to offer paging services should simply wait and hope for more efficient technology to be developed. INTEK's suggestion is the purest form of speculation.

220 MHz equipment today does not meet the efficiency standard, despite INTEK's claims to the contrary. INTEK's affiliate claims to offer 220 MHz data equipment with speeds of 14.4 kbps. However, INTEK's equipment must utilize an external modem. Without the external modem unit, the speed is only 1.2 kbps. In addition, the size of the INTEK mobile unit is not commercially acceptable for paging -- it weighs 3.75 lb. and measures 6.95"w, 9.10"d, 1.95"h. A Flex pager capable of receiving 6.4 kbps of data weighs 2.23 ounces and measures 1.99"w, .68"d, 2.72"h. Moreover, the INTEK unit is installed in a fixed configuration (normally in a vehicle with an external antenna) -- hardly the ideal configuration for paging. Consumers are accustomed to small, lightweight portable paging devices. Thus, the equipment that INTEK claims to be available is not commercially acceptable.[3] Finally, INTEK's equipment is designed to operate with two-way communications, not one way paging, although one way paging has been authorized by the FCC in this proceeding. Both the sender and the receiver of a message must have specific equipment to complete a data transfer. In addition, if an error occurs in the transmission of information to an INTEK receiver (because, for example, weak signal strength), the unit can request that information received with errors be resent. The data could then be resent at a slower data rate if required. One way paging receivers cannot perform these corrective functions. Accordingly, data must be sent the first time at a speed that ensures nearly 100% coverage, anytime, anywhere.

ComTech stated in its Petition that a 220 MHz paging transmitter using today's technology could offer paging services to several hundred thousand customers in the same

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[3] INTEK claims that Inflexion technology meets the Commission's data efficiency standard. Inflexion requires 50 kHz of bandwidth -- something ComTech and most other 220 MHz licensees simply do not have.

geographic area. Two-way voice dispatch providers could only serve several hundred users. Neither SEA[4] nor INTEK disagree, nor do they appear to claim that a 25 kHz channel paging system using Flex technology is "inefficient." ComTech agrees with SEA that "the two kinds of services are so dissimilar as to render the comparison [between paging and dispatch] wholly inapt." SEA Comments at 11. Paging and two-way voice dispatch meet different communications requirements. It is, therefore, illogical to attempt to measure the efficiencies of paging using a standard designed for dispatch communications. It is precisely for this reason that ComTech has requested that the Commission exempt paging operators from the efficiency standard. Unless either INTEK or SEA is prepared to offer an equivalency standard by which the Commission can specify the number of customers a paging system must be capable of accommodating in order to be as efficient as two voice communications, the best the Commission can ask is that paging operators employ the most advanced one way paging technology available.

ComTech recognizes that if paging services could be provided with 5 kHz bandwidth, the equipment used to offer that service would not be required by the rules to operate with any particular data rate (because it could be accommodated within a five kHz channel). Accordingly, such paging transmitters could operate, for example, with a data rate of 1.2 kbps. The alternative, the use of one 25 kHz paging channel with a data rate of 6.4 kbps (current Flex technology) is plainly more efficient. If the Commission's real objective is to promote efficiency, it should prefer the use of 25 kHz channelization with 6.4 kbps rather than the use of five (5) five kHz channels with a 1.2 kbps data rate.

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[4] SEA merely labels a two-way voice conversation as a "complete communications transaction."

ComTech does not seek to employ inefficient equipment. As a licensee with only 25 kHz of total nationwide-authorized spectrum, ComTech believes that it, not the FCC, and certainly not SEA and INTEK, is in the best position to ensure the most intense use of that spectrum. ComTech does not oppose all efforts to establish efficiency standards, but simply requests the flexibility to offer one way paging services using today's most efficient commercially-available technology. The Third Report and Order permits paging services; ComTech's Petition is designed to ensure that the benefit offered is not rendered meaningless by unnecessary regulatory obstacles.

III. Base Station Power Limits

ComTech's Petition requested that the Commission eliminate power limitations for paging operations using nationwide channels. Glenayre and Metricom support this approach. ComTech's Petition demonstrated that no harmful interference would occur and that monetary savings would result, making buildout easier and service more available. SEA opposes the requested change by challenging ComTech's ability to raise the issue at this point. SEA complains of what it labels the endless attempts to tweak the Commission's rules. SEA Comments at 6-7.

SEA's position is not well supported. ComTech demonstrated that comparable services have much higher power limits. See e.g., 47 C.F.R. § 90.494(g) (1996). Regulatory parity among nationwide CMRS providers requires amendment of the power limitations. The change requested by Glenayre and ComTech is timely because the Commission only decided to permit paging in the 220 MHz service in the Third Report and Order, of which ComTech has now sought reconsideration. Moreover, the only opposition to the proposed

rule change comes from a manufacturer motivated to make paging on 220 MHz channels less commercially attractive.

IV. Mobile and Fixed Station Power Limits

ComTech's Petition urged the Commission to relax the antenna height and power limits for based or fixed stations on "mobile" channels. ComTech noted that Part 22 of the Commission's rules permits higher-powered operations than does the rules for the 220 MHz service, which only allow 50 watts ERP on mobile channels. Because the channel separation is 30 kHz for Part 22 and only 5 kHz for 220 MHz operations, ComTech recommended a sliding scale for the 220 MHz service.[5]

In opposition, SEA argues that VHF paging is not a good example, because only two paging frequencies are adjacent to mobile frequencies. SEA fails to note, that while Section 22.535 of the rules permits base station use of only two "mobile channels," Section 22.565 of the regulations permits base station operation on every mobile channel. Like 220 MHz, the VHF channels specified in Section 22.565 are available for one or two way operations. Accordingly, contrary to SEA's position, 22.565 plainly provides for base station use of mobile channels within a mobile band.[6] SEA is further incorrect in its claim that the

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[5] SEA accords more significance to the separation between adjacent channel operations than does the Commission itself. The sub-band separation requirements of Section 90.723(d) of the rules specifies that transmitter channels removed from receiver frequencies by less than 200 kHz may be operated with an ERP of 500 watts, so long as the geographic separation of the stations is greater than 6 km.

[6] ComTech recognizes that the maximum ERP permitted for use in connection with mobile channels available for base station operations pursuant to Section 22.565 of the rules is 150 watts. However, this limit is still significantly greater than the limit imposed on the use of 220 mobile MHz channels.

maximum power permitted for base station operations on VHF mobile frequencies is 60 watts. The correct figure is 150 watts -- three times higher than that permitted in the 220 MHz service. 47 C.F.R. § 22.565(a) (1996).[7]

SEA also attempts to prevent comparable regulation of base station use of mobile channels between Part 22 paging systems and 220 MHz paging systems by noting that the obvious application for 220 MHz mobile channels in a paging system is for "talk-back" capability. SEA Comments at 4-5. Talk-back capability generally requires lower power levels. By this argument, SEA attempts to substitute its judgment for that of the marketplace. If one way paging without talk-back is what the marketplace demands, there should be no reason to prevent the use of the mobile channel for separate one way paging service. Moreover, there is no guarantee that talk-back paging will be commercially available at 220 MHz. Licensees should have the flexibility to use the mobile side for one way paging as adopted in the rules.

V. Other Issues

Metricom, Inc. filed comments supporting ComTech's call for revised construction requirements for Phase I nationwide licensees in light of the new services permitted. Metricom accurately notes that Phase I nationwide licensees will likely construct transmitter stations to meet the currently-applicable deadlines, then eventually replace those transmitter stations with new equipment to take advantage of the Commission's recent decision allowing the provision of fixed and paging services. This result is inefficient and contrary to the public

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[7] Admittedly, there are limits on the use of mobile channels for base station operations. See 47 C.F.R. § 22.567(h) (1996). However, those limits would be irrelevant to ComTech because it is a nationwide licensee.

interest, particularly in light of ComTech's demonstration that there is no equipment available today to offer services now permitted by the rules. In particular, ComTech requests that the Commission allow Phase I nationwide 220 MHz licensees to toll their construction requirements until such time as equipment meeting the spectrum efficiency standard for aggregated channels is available for it to meet its construction requirements with the new services now allowed.

Metricom also correctly notes that the Commission's vague policies concerning "substantial service" must be clarified. Metricom Comments at 5-6. This is especially true in light of ComTech's request that Phase I nationwide licensees be permitted to meet construction requirements by placing less than five channels into operation at a site, like comparable PCS licensees. ComTech and other Phase I nationwide licensees should essentially be afforded the same flexibility as narrowband PCS providers

VI. Conclusion

WHEREFORE, THE PREMISES CONSIDERED, ComTech Communications, Inc. submits the foregoing Reply and urges the Commission to act in a manner consistent with the views express herein.

Respectfully submitted,

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Dated: June 18, 1997

CERTIFICATE OF SERVICE

I, Donna Fleming, a secretary in the law firm of Gardner, Carton & Douglas, certify that I have this 18th day of June, 1997, caused to be sent by first-class U.S. mail, postage-prepaid, a copy of the foregoing Reply to the following:

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