

and data pages. Freeman Request for Pioneer's Preference at 5-6. It claims that spectrum can be further conserved by allowing all portable units to operate in a controlled fashion on one frequency. Id.

Freeman's skeletal proposal is notable in that, like PageNet, it recognizes a mass market for voice paging services now generally available only in rural markets. However, it fails to meet the substantial burden the Commission rightly established for awards of a pioneer's preference. Freeman's proposal does contain the relevant buzz words: spectrum efficiency, voice compression, increased throughput; but nowhere does Freeman even attempt to set forth the details of its proposal or demonstrate its feasibility.

Freeman's entire demonstration of technical feasibility consists of one sentence: "Freeman believes that this proposal is technically feasible using some current technology, and some technology yet to be applied, but technology that is within the knowledge of the industry." Freeman Request for Pioneer's Preference at 8. Certainly this self serving statement, which does not even attempt to set forth the technologies under consideration (e.g., "some technology") does not meet the substantial burden the Commission placed on applicants for pioneer's preferences. Freeman's proposal is a seed only; whether it would survive to germinate is anyone's guess given the current stage of its development.

In addition to its skeletal service description, Freeman's proposal is deficient in several other regards. Its proposed utilization of a significant amount of frequency including, a

series of 150 KHz channels (presumably three), Id. at 5, a 56 KHz reverse channel, Id., and a series (presumable three) of 56 KHz channels for "base station as well as mobile use," Id. at 6, is incompatible with adjacent bands. Freeman has made no demonstration of any spectral efficiencies, increased speed or reduced costs resulting from its proposal. Further, Freeman's service does not constitute a new use of radio frequency, nor does it offer any functionalities in addition to those currently available. Finally, Freeman has proposed no rules for implementation of its "proposal" as required by the Commission. See Pioneer's Preference Order at 3492. As it has not even scratched the surface of the Commission's criteria for the award of a pioneer's preference, Freeman's proposal is not worthy of serious consideration.

F. Skycell Corporation

Like Freeman, Skycell's proposal lacks substance or detail sufficient to allow the Commission to evaluate its ultimate merit. Its pioneer's preference request, which is all of three pages, fails even to generally describe its proposed service. One has to reference Skycell's equally vacuous Petition for Rulemaking in order to get even a rough idea of what services Skycell proposes.

Skycell's ambiguous proposal for Telepoint Management Radio ("TMR") provides neither the technical nor commercial feasibility

showing required for the grant of a pioneer's preference.^{18/} Moreover, given the applications of Skycell's proposed system (i.e., adjunct services to PCS carriers and private pay telephone providers, and direct messaging to CT-2 handsets) it is more appropriately classified as a PCS system and should be considered, if at all, in that proceeding.^{19/} Efficiencies that would benefit PCS systems should be drawn from the frequency allocated for these underlying services, not from the 930 MHz band. The 930 MHz band should be reserved for advanced one-way paging services consistent with the adjacent band use.

VI. THE DIAL PAGE, MTEL, AND PACTEL AAP AND PACTEL GAP SUPPLEMENTAL FILINGS DO NOT CURE THE DEFICIENCIES CONTAINED IN THEIR RESPECTIVE PROPOSALS

A. Dial Page, L.P.

As detailed in PageNet's previously filed Opposition to Dial Page's Request for Pioneer's Preference,^{20/} Dial Page's proposal to provide regional Acknowledgment Paging does not qualify for a pioneer's preference. Its proposed service is not sufficiently

^{18/} The limited information regarding Skycell's proposal is primarily contained in its Petition for Rulemaking, filed May 29, 1992. Although no public notice has been issued accepting that Petition for filing, PageNet, for the reasons set out herein, opposes its adoption.

^{19/} In fact, Skycell recognizes that if its proposed PCS Telepoint service, to which the proposed system would provide adjunct services, is not included in the PCS Notice of Proposed Rulemaking, its instant proposal would be moot. Skycell Request at 2.

^{20/} See PageNet's Opposition to Pioneer Preference Requests filed June 1, 1992 at 17-18.

innovative, nor has it demonstrated increased spectrally efficiencies, increased transmission speeds or reductions in the costs of service. Through its supplemental filing, Dial Page has not removed any of these impediments to the grant of a Preference.

Dial Page's Supplemental filing provides little more than a more detailed description of its proprietary Digital Signal Processing Receiver ("DSPR") through which it would implement its proposed system. While the DSPR may help overcome wide and narrow-band random noise and fading^{21/}, there are technical problems, not addressed by Dial Page that bring into question the feasibility, or at least the efficiency of its proposal. The lack of synchronization among the multiple paging systems providing service will result in uncoordinated transmissions from pagers. This lack of management in the proposal will make collisions more likely and result in inefficiencies and poor quality service.

Dial Page has also overlooked the fact that all paging customers who subscribe to acknowledgment services must access the system from PSTN through Dial Page's front-end processor (paging terminal), which then passes the page information to the outbound service provider's paging terminal. This is another example of the costly inefficiencies and duplication that result from separate forward channel and acknowledgment channel systems. The page must be forwarded to the provider's switch, yet stored at the front-end processor. The range of services offered is also

^{21/} Although Dial Page is aware of the adjacent channel noise problem, it has not demonstrated even a superficial understanding of the depth of the problem or proposed a solution.

limited by the type of interconnection and equipment that may be chosen by Dial Page. Services such as wide-area calling and voice mail would be beyond the control of the service provider; in the future, as new service opportunities arise, paging carriers would be at the mercy of the acknowledgment carrier and the features it chose to implement at its "front-end." In addition, the outbound service provider must pay Dial Page to provide PSTN interconnect services that they now procure direct from the PSTN.

B. Mobile Telecommunication Technologies Corporation

Mtel's supplemental filing does not cure the deficiencies associated with its proposal seeking a pioneer's preference for its Nationwide Wireless Network ("NWN"), a two-way portable data communications service. See PageNet Opposition to Pioneer Preference Requests, filed June 1, 1992, at 12-14. The demand for wireless data services is already being served by existing SMR and cellular providers,^{22/} and Mtel's claimed enhancements to these existing services can be offered in the 220 MHz band in which Mtel is an applicant. Although the 220 MHz band is divided into 5 KHz channels, these channels will readily accommodate a 2400 bps data rate, which is a data modulation efficiency of 0.48 bits/Hz, identical to Mtel's current proposal, without resorting to exotic amplifiers and modulation techniques. Other bands with 12.5 KHz and 25 KHz are realizing 9600 bps and 19,200 bps respectively, for a data modulation efficiency of 0.77 b/Hz.

^{22/} See PageNet's Opposition to Pioneer Preference Requests at 8-9.

In its supplement, Mtel makes no showing that its proposed service is technically superior to currently existing services. Although Mtel proposes a 24 kbps data transmission rate (slightly faster than ARDIS' 19.2 kbps), it does not provide the end user with any increase in speed, but rather, because of its average three minute delay, results in a substantial decrease in speed as compared to existing technologies. For example, a 300 character (2400 bit) message transmitted in real time at 2400 bps would take one second. The same message transmitted on Mtel's system, absent the three minute delay, would take 0.1 second. However, from the user's perspective, 2400 bits are transmitted in 180.1 seconds, for an effective user's transmission rate of 13.33 bps - not an increase in speed. See Attachment A.

Mtel itself is uncertain as to whether its system can be deployed in a spectrally efficient manner on a timely basis. See Mtel Technical Feasibility Demonstration, filed June 1, 1992, at 20, n.49. Alternatively, Mtel proposed to implement a less efficient technology until a more spectrally efficient technology can be deployed. Downward compatibility with this less efficient technology would be maintained as new equipment was introduced, Id., resulting in a permanent reduction of overall system efficiency. Mtel's request is thus, at a minimum, premature. It should not request spectrum for its NWN until it has completed technology development and can, without question, provide spectrum efficiencies.

From the information provided by Mtel, it is impossible to determine if there are decreased costs. Although it provides an

estimated wholesale cost of its paging unit, it provides no information on costs to the subscriber for either equipment or service. Because the technical characteristics (i.e., system bandwidth and modulation scheme) of Mtel's proposed system are inconsistent with any other frequency band, no economies of scale for subscriber equipment can be derived and any cost savings are unlikely. Equipment manufactured to Mtel's specifications could be utilized only on Mtel's system and frequency allocation. Mtel, too, therefore fails to demonstrate its qualities for a pioneer's preference.

C. PacTel Paging Advanced Architecture Paging and Ground To Air Paging

As detailed in PageNet's Opposition to Pioneer Preference Requests, filed June 1, 1992 at 18-20, PacTel's AAP and GAP proposals do not qualify for a pioneer's preference. In its Supplements, PacTel still fails miserably to detail its proposed system, setting forth only concepts, which themselves lack development.

In its Supplement to Request for Pioneer's Preference for both its AAP and GAP proposals, all PacTel does is report that it is going to study the possibility of utilizing QAM modulation to increase the speed of its system.^{23/} The fact that PacTel is still in the very preliminary stages of evaluating modulation

^{23/} As set forth in PageNet's Request or Pioneer Preference, PageNet has been experimenting with QAM techniques for some time now, see PageNet Pioneer's Preference Request, filed June 1, 1992 at 25, and has concluded that significant increases in speed do result.

techniques suggests just how preliminary PacTel's proposals are in their development. PacTel has simply not demonstrated the technical merit of its proposals, and thus does not qualify for a pioneer's preference.

**VII. NOTWITHSTANDING THEIR FAILURE TO QUALIFY
FOR PIONEER PREFERENCES, SERVICES PROPOSED
BY APPLICANTS MAY BE OFFERED IN THE 930 MHz
BAND**

The fact that applicants have not demonstrated that they deserve a pioneer's preference for their efforts should not necessarily preclude the services they propose from being offered in the advanced messaging band.

Not one applicant demonstrated, for example, that it invented or was first to apply acknowledgment capability nor did most applicants proposing acknowledgment have any technical understanding of the manner in which the acknowledgment network must be deployed in order to minimize interference. Thus none are entitled to a preference.

This does not mean that acknowledgment services, per se, proposed by Dial Page and others should be precluded from being provided in this band. Acknowledgment capability may well offer users of one-way data messaging services a very desirable option, with "cute" definitions of what constitutes one-way paging service should not be permitted to preclude. Furthermore, it does not mean that services proposed by Metriplex, MobileComm, or PacTel should be precluded from being offered in this band. If the Commission determines that these services fall within the

definition of advanced paging services, carriers should be allowed to provide these services in accordance with the rules adopted in Gen. Docket ET 92-100.

VIII. CONCLUSION

None of the captioned requests for Pioneer's Preferences proposes a service which is sufficiently innovative, spectrally efficient or satisfies other appropriate criteria. Consequently, none merits the award of a Pioneer's Preference. Wherefore, PageNet respectfully requests that the above captioned Requests for Pioneer's Preference filed be denied.

Respectfully submitted,

PAGING NETWORK, INC.

By: *Judith St. Ledger-Roty*
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Its Attorneys

June 19, 1992

ATTACHMENT A

SPECTRAL EFFICIENCY COMPARISON

Spectral Efficiency Improvement Over Current State-of-the-Art

	<u>Data rate</u> <u>(kb/sec)</u>	<u>Bandwidth</u> <u>(kHz)</u>	<u>Efficiency</u> <u>bits/sec/Hz</u>	<u>Average</u> <u>Message</u> <u>Length</u> <u>(sec.)</u>	<u>Improvement</u>
VoiceNowSM					
Analog voice		25		15	
PageNet VoiceNow SM	80	25	3.2	1.5	1000%*

*As a result of frequency reuse and other spectrum conservation measures, total system improvement is 22 times that of analog voice paging system.

One-Way Data

ERMES	6.25	25	0.25		
GEM	6.25	25	0.25		0%*
Metriplex	2.4	25	0.10		-62%
MobileComm	15	50	0.30		+20%
PacTel AAP	?	25-50	?		none demonstrated
PacTel GAP	?	25	?		none demonstrated

*30% claimed as a result of "proprietary" technology.

2-Way Mobile Data

ARDIS	19.2	25	0.77		
Freeman	?	150	?		none demonstrated
Mtel	24	50	0.48		-38%

In the Matter of:	)	ET Docket No. 91-200
)	
Dial Page, L.P.	)	PP-35
)	
Mobile Telecommunication Technologies Corporation	)	PP-37
)	
PacTel Paging (Advanced Architecture Paging)	)	PP-38
)	
PacTel Paging (Ground-to-Air Paging)	)	PP-39
)	
Freeman Engineering Associates	)	PP-79
)	
Global Enhanced Messaging Venture	)	PP-80
)	
Metriplex, Inc.	)	PP-81
)	
Mobile Communications Corporation of America	)	PP-82
)	
Montauk Telecommunications Company	)	PP-83
)	
Skycell Corporation	)	PP-85
)	
Requests for Pioneer's Preference in the 930-931 MHz Band To Provide Two-Way Data and Advanced Paging Services)	

To The Commission:

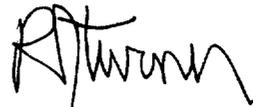
DECLARATION

I, Ronald J. Turner do hereby declare that:

1. I am Paging Network, Inc.'s Director of Systems and Management. My business address is 4965 Preston Park Blvd., Suite 500, Plano, Texas 75093.

2. I have reviewed Paging Network, Inc.'s Opposition to Pioneer Preference Requests, dated June 19, 1992, in the above-captioned proceeding. The facts set forth therein, and in any attachments thereto, are true and correct to the best of my knowledge, information and belief.

This declaration is made under penalty of perjury under the laws of the United States of America.



Ronald J. Turner

Dated: June 19, 1992

CERTIFICATE OF SERVICE

I, Kathleen A. Kirby, hereby certify that on this 19th day of June 1992, a true copy of the foregoing **Opposition To Pioneer Preference Requests** was mailed, first class, postage prepaid to:

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Chairman
Federal Communications Commission
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Washington, D.C. 20554

Honorable James H. Quello*
Commissioner
Federal Communications Commission
1919 M Street, N.W., Room 802
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Commissioner
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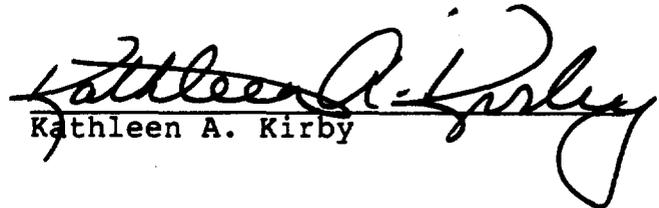
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