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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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In the Matter of)
)
PACTEL PAGING)
)
Request for a Pioneer's)
Preference Respecting)
Ground-to-Air Paging Services)

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

ET Docket No. 92-100
Preference No. PP-39

**SUPPLEMENT TO
REQUEST FOR PIONEER'S PREFERENCE**

PacTel Paging ("PacTel"), by its attorneys, hereby supplements its Request for a Pioneer's Preference in the licensing process for the 930-931 MHz band based upon its work in the development of a Ground-to-Air Paging ("GAP") service. The following is respectfully shown:

I. BACKGROUND

Various petitions for rulemaking have been filed requesting the opening of the 930-931 MHz paging reserve band for narrowband paging, messaging and/or data services. See Public Notice, Mimeo No. 22914, released April 30, 1992. One such request is PacTel's Petition for Rulemaking (RM-7860) which proposes a one-way "ground-to-air paging service" that provides a high speed advanced digital paging service utilizing satellites

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to simulcast ground based transmitters specially configured to alert paging receivers on board aircraft throughout the nation.^{1/}

PacTel's GAP petition and associated request for a pioneer's preference were filed on October 15, 1992 and October 17, 1992, respectively. The original submissions were supplemented on March 16, 1992 with a report on the results of PacTel's market study respecting the need for GAP service. These prior submissions are hereby incorporated by reference.

II. THE BASIS FOR THIS SUPPLEMENT

The purpose of this supplement is to update the Commission on the latest phase of tests and advise the Commission of certain new aspects of the GAP service that are under consideration.

A major focus of PacTel's program of experimentation for GAP has been to determine the maximum baud rates that can be successfully employed in a simulcast paging environment. As a point of reference, the ERMES standard is based upon 3150 baud. As baud rates increase, coding schemes with enhanced error correction must be developed to maintain service reliability. PacTel has discerned that the simulcast boundary for near term development is between 3200 and 6400 baud. PacTel is seeking to demonstrate in its experimental program the feasibility of a 4800

^{1/} GAP service may be offered utilizing the enhanced paging technology platform advocated by PacTel under the name of "Advanced Architecture Paging" or "AAP". See RM-7979 and Preference No. PP-38.

baud operation in a dense simulcast environment. This will represent approximately a 30% increase in capacity over existing standards which, by some estimates, would permit 1.2 million 10-digit numeric subscribers to be served on a single paging channel, assuming 4 level FSK.

The new phase of tests has to do with studying alternate modulation techniques to further advance the capabilities of messaging service. An experimental program is underway that enables a PacTel affiliate, Telesis Technologies Laboratory, Inc. ("TTL"), to test a variety of modulation techniques including analog FM, Time Division Multiple Access ("TDMA"), Frequency Division Multiple Access ("FDMA") and narrow-band (i.e. 1 MHz) Code Division Multiple Access ("CDMA").^{2/} To date, experimentation respecting GAP has been confined principally to digital FSK. PacTel is now studying the possibility of utilizing QAM, Orthogonal Frequency Division Multiplex and narrow-band CDMA techniques for GAP.

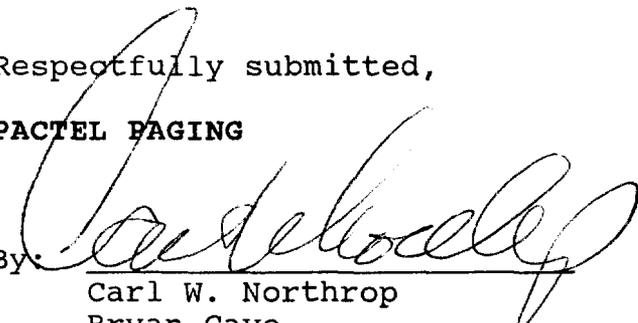
At this preliminary stage, the purpose of the study will be to determine whether the use of any of these advanced techniques offers improvements in terms of capacity, signal robustness, error correction and resistance to multipath interference and fading.

^{2/} Experimental licenses were granted by the Commission in File Nos. 1658 through 1662-EX-PL-90. The experimental authorization originally was granted to PacTel's parent, the Pacific Telesis Group, and then transferred to the Company's research and development subsidiary, TTL. See FCC File No. 1934-EX-TC-91.

The pursuit of these avenues of experimentation is at the planning stage, and PacTel is not in a position to predict the course that the experimentation will take or the likelihood that the results will ultimately form the basis of a GAP licensing scheme. PacTel hopes to be in a position to report on the results of its analysis in the course of the rulemaking proceeding which is to be conducted to make the 930-931 MHz band available for advanced messaging service applications. However, in view of the deadline established by the Commission for the submission of pioneer preference requests, PacTel felt it was necessary and appropriate to mention this aspect of the company's continuing program of GAP experimentation.

Respectfully submitted,

PACTEL PAGING

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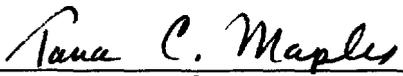
CERTIFICATE OF SERVICE

I, Tana C. Maples, hereby certify that a copy of the foregoing **SUPPLEMENT TO REQUEST FOR PIONEER'S PREFERENCE** has been sent by United States mail, first class and postage prepaid, to the following on the 1st day of June, 1992:

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