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PACIFIC X TELESIS
Group - Washington

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

January 27, 1993

Donna R. Searcy
Secretary
Federal Communications Commission
Mail Stop 1170
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Dear Ms Searcy:

Re: *ET Docket No. 92-9, RM-7981, RM-8004 - Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*

On behalf of Pacific Telesis Group, please find enclosed an original and six copies of its "Reply Comments" in the above proceeding.

Please stamp and return the provided copy to confirm your receipt. Please contact me should you have any questions or require additional information concerning this matter.

Sincerely,



Enclosures

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JAN 27 1993

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

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)	
)	
Redevelopment of Spectrum to)	ET Docket No. 92-9
Encourage Innovation in the)	
Use of New Telecommunications)	RM-7981
Technologies)	RM-8004

REPLY COMMENTS OF PACIFIC TELESIS GROUP

Pacific Telesis Group ("Pacific") submits its reply in response to comments on the Commission's Further Notice Of Proposed Rulemaking in the above-captioned docket¹ which proposes rules for the bands above 3 GHz to which 2 GHz licensees will be relocated.

Pacific recognizes the need for spectrum for new technologies and supports the Commission's efforts to establish fair and efficient usage of this limited resource. However, Pacific believes the Commission's proposed rechannelization plan should be modified to insure efficient use of the higher frequency common carrier bands while still accommodating the needs of both wideband and narrowband users.

¹ Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, ET Docket No. 92-9, RM-7981, RM-8004; Notice of Proposed Rulemaking, 7 FCC Rcd 1542 (1992); Further Notice of Proposed Rulemaking, 7 FCC Rcd 6100 (1992) ("FNPRM"); First Report and Order and Third Notice of Proposed Rulemaking, FCC 92-437, released October 16, 1992.

Insufficient consideration has been given to the effect on incumbent users of the common carrier bands and to the overall effect of the proposed changes on the efficient use of the spectrum. The FNPRM, as proposed, will cause significant disruptions to existing users' growth plans and create extremely difficult coordination problems. The proposed plan could result in inefficient use of the spectrum and destruction of these bands as a vehicle for wideband radio facilities.

Other commenters have raised several points that the Commission should consider. One of the commenters that echoes Pacific's concerns is the National Spectrum Managers Association.² As representative of the frequency coordination community, NSMA's comments are developed from extensive experience with the widest base of users of the frequency spectrum and reflect an objective viewpoint that will serve the public interest. Pacific agrees with NSMA that extensive use of wideband systems by displaced 2 GHz narrowband users may not be necessary and therefore as few wideband channels as possible should be affected in supporting narrowband systems; that if new plans are adopted, existing installations and their future growth must be grandfathered; and that current industry-standard wideband channel plans should be used as the basis for new narrowband channelization.

² Comments of National Spectrum Managers Association, dated December 11, 1992 ("NSMA").

I. Overlaying Narrowband Channels Promotes Inefficient Use Of The Spectrum

The FNPRM proposes rechannelizing the 4, 6, and 11 GHz common carrier bands with overlaying 30 MHz, 10 MHz and, in some bands, 5 MHz and narrower channels. As described in our previous comments,³ the mix of narrowband and wideband frequencies slots using the same spectrum may result in inefficient use of spectrum. Comsearch, Northern Telecom, MCI and EMI have voiced similar concerns about allowing wideband and narrowband channels to coexist in the common carrier bands.⁴ Mixed usage of wideband and narrowband channels will be extremely difficult to coordinate and will tend to block development or expansion of high capacity wideband systems.

If narrowband (10 MHz or less) frequency slots are available throughout each common carrier band, a narrowband user could tie up an entire wideband frequency slot leaving most of the wideband frequency slot unused. A few narrowband users scattered across the band could tie up most or all of a band preventing use of wideband channels, leaving most of the spectrum in the band unused. If narrowband channels are allowed in mid-band, there may be no contiguous spectrum left for wideband channels. This would not only be inefficient use of the spectrum

³ Comments of Pacific Telesis Group, dated December 11, 1992, pp. 3-5.

⁴ Comments of Comsearch, dated December 11, 1992, pp. 3-4; Comments of Northern Telecom, dated December 11, 1992, pp. 4-5; Comments of MCI, dated December 11, 1992, pp. 3-4; Comments of EMI Communications Corp., dated December 11, 1992, p. 5.

but would destroy the usefulness of these bands for wideband service.

NSMA proposes an alternative plan that avoids this problem and shows how to preserve the full and efficient use of spectrum -- by reserving the main body of each common carrier band for wideband channels and restricting narrowband operation to the "guard bands" at the upper and lower ends of the bands and in the center segments not used for wideband transmission.⁵ Pacific urges the Commission to consider this alternative. Suggested channelization plans for the 6 to 11 GHz common carrier bands that contain these features are shown elsewhere in these reply comments.

II. The 4 GHz Common Carrier Band Is Not Suitable For Rechannelization

The comments of GTE Service Corporation, Telecommunications Industry Association, Home Box Office and other satellite service providers and users highlight the difficulty of adding new users to the 4 GHz common carrier band or modifying the existing channelization plan.⁶ New users in a rechannelized 4 GHz band would create high potential for interference to television receive-only (TVRO) satellite

⁵ NSMA, p. 3; See also EMI, p. 5.

⁶ Comments of GTE Service Corp. dated December 11, 1992, pp. 5-6; Comments of Telecommunications Industry Association Fixed Point to Point Communication Section, dated December 11, 1992, p. 8; Comments of Home Box Office, dated December 11, 1992, pp. 11-12.

systems. Terrestrial and satellite users can coexist today largely because satellite transponders use frequency offset to minimize interference from terrestrial radio systems. If the 4 GHz common carrier band is rechannelized, this frequency offset will be lost. This will result in potential interference to millions of licensed and unlicensed TVRO owners. Since no part of the 4 GHz band can be rechannelized without causing this interference, the 4 GHz common carrier band should not be considered for rechannelization.

III. The Proposed Rechannelization Plan For The 6 GHz Common Carrier Band Is Flawed

Presently, the main body of the 6 GHz common carrier band is channelized in 29.65 MHz increments. If the Commission's proposal to employ 30 MHz increments is adopted, a frequency offset of between .2 and 2.2 MHz will occur between incumbents using the 29.65 MHz plan and new users on the 30 MHz plan. The frequency offset causes the band edges of the two different plans to overlap. A user of one channelizing plan that overlaps the band edge of the other plan's adjacent channel essentially blocks both channels. Incumbents can block use of adjacent channels by new users and vice versa. Spectrum is wasted when one channel ties up spectrum for two channels. The variable channel overlap will also cause very difficult coordination problems.⁷

⁷ Alcatel and Telecommunications Industry Association, Fixed Point-to-Point Microwave Section, have ceased to recommend 30 MHz spacing and plan to present a revised plan based on 29.65 MHz spacing in their Reply Comments.

Pacific joins with Northern Telecom, MRC, EMI, GTE, Comsearch, NSMA, and Bell Atlantic⁸ to recommend the continued use of the existing 29.65 MHz standard for channelization instead of 30 MHz. As NSMA notes, because the existing base of users of the 29.65 MHz plan is far greater than the group of potential new users, adopting a new channelization plan rather than endorsing the existing industry-standard plan makes little sense.⁹

In addition to retaining the existing 29.65 MHz plan Pacific recommends that the bulk of the 6 GHz common carrier band be reserved for wideband channels only. The various narrowband channelizations (400 KHz, 800 KHz, 5 MHz and 10 MHz) can be interleaved on the band edge "guard band" channels. The spectrum between the edges of the "T" plan channels 11T and the edge of the band and channel 28T and the edge of the band plus the center band spectrum between the edges of 18T and 21T provide approximately 25.6 MHz of spectrum for narrowband channelization. This plan allows the standard eight pairs of 29.65 MHz "T" plan channels to remain available for wideband use. Pacific urges the Commission to adopt a plan similar to this for the 6 GHz common carrier band.

⁸ Northern Telecom, p. 6; Comments of MRC Telecommunications Inc., dated December 11, 1992, pp. 3-4; EMI, p. 4; GTE, pp. 5-6; Comsearch, p. 10; NSMA, pp. 4-7; Comments of the Bell Atlantic Companies, dated December 11, 1992, p. 4.

⁹ NMSA, p. 2.

IV. Establishing The Proposed Channelization Plan Will Reduce Spectral Efficiency In 11 GHz Common Carrier Band

Except for the two band edge channels, the 11 GHz common carrier band is presently channelized into 40 MHz channels. The Commission's proposed plan is to overlay this with 30 MHz and 10 MHz channels across the band. The problem with trying to make the two plans coexist is that the 30 MHz increments quickly get out of step with the 40 MHz increments. Several 30 MHz channels will fall in between and overlap the edges of adjacent 40 MHz channels, blocking both 40 MHz channels. 80 MHz of spectrum will be tied up by the 30 MHz channel leaving 50 MHz unused.

Pacific joins EMI, Comsearch, and NSMA to recommend against overlaying narrow-band channels on the existing wideband plan.¹⁰ Pacific proposes an alternate plan that will overcome the inherent spectral inefficiency of the Commission's proposed plan: The band edge channels centered at 10715 MHz (4P) and 11685 MHz (2J) plus the center band spectrum between 11175 MHz and 11225 MHz could be channelized for narrowband (10 MHz) operation. This makes 110 MHz of spectrum available for narrowband channels and leaves the remainder of the 11 GHz common carrier band for wideband channels. If more spectrum is deemed necessary to accommodate narrowband users, an additional 40 MHz channel could be assigned for narrowband operation.

¹⁰ EMI, p. 5; Comsearch, pp. 3-4; NSMA, p. 3.

V. Growth Protection Is Critical To Long-term Common Carrier Services

Pacific is joined by several commentors¹¹ in urging the Commission to maintain growth protection provisions for existing facilities. Not only must current growth plans be grandfathered but, as recommended by NSMA and Comsearch, frequency coordination rules must provide for growth protection.¹² Growth protection is critical to the continued provision of common carrier services. Given the generally fixed, but significant, cost of constructing and installing microwave routes, carriers must be able to justify such investment by the anticipated expansion of its systems. Inability to protect those routes for future growth would undercut the economic viability of those projects.

VI. Conclusion

For the reasons discussed above, the Commission should approve the following recommendations that will permit the efficient use of spectrum: adopt a channelization plan that reserves significant continuous spectrum for wideband uses; include express provisions that grandfather existing installations and growth channels; and protect the growth

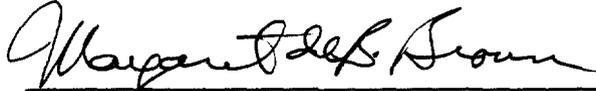
¹¹ EMI, p. 3; WTCI, p. 5-6; Comsearch, p. 17-19; NSMA, p. 5.

¹² NSMA, p. 5; Comsearch, pp. 17-19.

reservation capabilities of existing users so as to assure their ability to accomplish long range goals.

Respectfully submitted,

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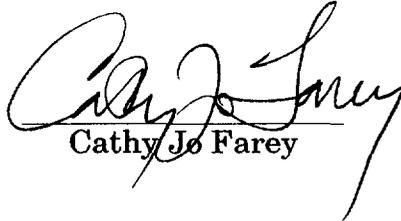
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Its Attorneys

Dated: January 27, 1993

CERTIFICATE OF SERVICE

I, Cathy Jo Farey, hereby certify that a copy of the foregoing Reply Comments of Pacific Telesis Group was mailed first-class United States mail, postage prepaid, this 27th day of January, 1993 to the parties listed on the attached service list.


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