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BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

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

COMMENTS OF SOUTHWESTERN BELL CORPORATION

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January 13, 1993

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SUMMARY

Southwestern Bell Corporation ("SBC") supports the Commission's decision to seek comment on the definition of "comparable alternative facilities" for the purpose of determining what type of facilities must be provided by a new technology provider to an incumbent operator under the prescribed involuntary relocation plan. SBC generally believes that the incumbent has every right to expect and require that the relocated facilities be of the same quality. However, absolute facilities comparability may not be reasonable or required in all instances, and SBC believes that such issues would be appropriately addressed through an industry forum or standards body.

In terms of the appropriate transition period for relocation of incumbents, SBC favors a transition period of ten years, and in no event less than three years. A fairly long transition period should be adopted to minimize the impact on both new technology providers and incumbent operators in regard to associated relocation costs. A lengthy transition period will also permit the further development and testing of techniques (such as spectrum sharing) and advances in equipment technology that could substantially reduce and, in some cases, eliminate excessive and potentially unnecessary relocation costs.

The date of the transition period should not begin with the effective date of an order relating to

re-channelization plans, as suggested by the Commission. It should commence on the date that a *bona fide* request for relocation is received by the incumbent operator from a qualified and duly licensed new technology provider. This modification will eliminate confusion and avoid unnecessary relocation planning costs for those cases where relocation is neither requested nor required. If the Commission rejects SBC's proposal on the commencement and length of the transition period, SBC recommends that a minimum period of 18 months be adopted for voluntary negotiations from the date that a *bona fide* request is received.

The transition period adopted by the Commission should be applied evenly in all cases. The Commission should reject the proposals to give a transition preference to unlicensed users, and/or to new licensees in areas where little or no spectrum is available. No valid basis exists for adopting a shorter transition period in those cases. However, extensions in the transition period should be allowed and should be liberally granted where difficulties in completing the relocation are documented and shown.

SBC supports the use of tax certificates to make the incumbent eligible for non-recognition of taxes on sales and exchanges of property due to a change in the Commission's spectrum policies. Tax certificates should be available regardless of whether the incumbent relocates to alternative media or to a different frequency band, since

the reason for the relocation is the same in both instances (i.e., a change in Commission policy).

Finally, SBC fully supports continued emphasis on spectrum sharing techniques as an alternative to relocating large numbers of incumbent users of the 2 GHz spectrum. The development, effectiveness and use of active interference avoidance techniques, such as SBC's Intelligent Multiple Access Spectrum Sharing ("IMASS") technique, should be specifically recognized and encouraged, particularly for areas with a high density of existing microwave usage.

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COMMENTS OF SOUTHWESTERN BELL CORPORATION

Southwestern Bell Corporation ("SBC"), on behalf of its operating subsidiaries and affiliates, submits these comments in response to the Commission's *Third Notice of Proposed Rulemaking* ("*Third NPRM*") in the above referenced proceeding. The *Third NPRM* seeks comment on the appropriate period for transitioning emerging technologies to the 2 GHz band and on reasonable accommodations for displaced and relocated 2 GHz fixed microwave operations.

I. OVERVIEW.

SBC believes that there are problems associated with the Commission's over-zealousness in moving too quickly towards a spectrum reallocation without due consideration being given to all the issues in this proceeding. Rather than repeat all of SBC's concerns and recommendations, SBC refers the Commission to the comments SBC filed in response to the February 7, 1992 *NPRM*.[1]

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[1]*See SBC Comments*, ET Docket No. 92-9 (filed June 5, 1992) hereby incorporated by reference.

At the same time, SBC also believes that the Commission has made substantial progress in identifying and addressing a number of the implementation issues as well as correcting some of the harsher aspects of its initial proposals.[2] In these Comments, SBC will focus on the implementation and transition issues.

II. INVOLUNTARY RELOCATION.

Assuming voluntary relocation of the incumbent 2 GHz fixed microwave service operator or operators fails, the Commission sets forth the conditions that must be met by the emerging technology service provider as part of the incumbent operator's involuntary relocation. Generally, the emerging technology service provider must guarantee payment of all relocation expenses, build the new microwave facilities at the relocation frequency, and demonstrate that the new facilities are comparable to the old facilities.

To facilitate this process, the Commission seeks comment on how to define comparable alternative facilities and on whether negotiated rulemaking or some type of informal dispute resolution process might be beneficial in addressing these and other involuntary relocation

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[2]For example, SBC supports the Commission's decision to modify and alleviate the proposed cut-off date for changes and additions to existing 2 GHz facilities, and the elimination of mandatory secondary status for facility additions and existing operators without reasonable accommodations first being made.

questions.[3] SBC agrees that a need exists to address both issues, and suggests that they be referred to an existing industry forum or standards body, such as the Telecommunications Industry Association ("TIA"), or its standards body TR 14.11, for the development of parameters, guidelines, and recommendations. Such a forum could develop a consensus industry position on these issues and report back to the Commission within a predetermined time frame (e.g., six months).

Examples of parameters which might be used in determining "comparable alternative facilities" include: (1) amount of interference currently encountered by the incumbent user; (2) quality and reliability (downtime and meantime between failures) of equipment currently used by the incumbent; (3) path design, geographic aspects and application specific characteristics of the incumbent's existing microwave facilities;[4] and (4) comparable bandwidth with similar density and distance characteristics.

However, when deciding the issue of comparable facilities, the Commission should be cautioned that absolute comparability may not be reasonable and should not be required in all instances. In some cases, the incumbent may

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[3]*Third NPRM*, para. 25.

[4]For example, the 12 GHz band would not be an appropriate replacement spectrum for microwave facilities used for transmitting over large bodies of water where there is a tendency for severe rain storms, such as near the Gulf of Mexico

have "over-engineered" its microwave facilities, and it may be necessary for the Commission or some other body to become involved in determining how far a new technology provider must go when building comparable facilities. Still, cases of "over-engineered" systems should be distinguished from where an incumbent has paid for and installed state-of-the-art or similar high quality facilities based on sound business needs. In those instances, the incumbent has every right to expect and require that the relocated facilities will be of the same quality.[5]

III. TRANSITION PERIOD.

In an effort to balance the needs of new service providers with any undue disruption of incumbent operators and services, the Commission proposes to adopt a transition period of from three to ten years. The Commission seeks comment on the length of the transition period and on certain transition alternatives.[6]

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[5]Deciding whether facilities have been "over-engineered" and therefore need not be exactly replicated, or whether they represent quality, state-of-the-art equipment, which should be replicated, will oftentimes be a difficult question. Regardless of whether the Commission, an industry body, or an arbitrator decides such questions, the goal should be in each instance to assure that both the incumbent and the new technology provider are treated fairly and equitably.

[6]*Third NPRM*, para. 27.

A. The Transition Period Should Be Ten Years And In No Event Less Than Three Years.

SBC generally supports a transition period of ten years. Ten years is reasonable because many existing facilities will be outgrown, become obsolete, or will need to be replaced within that time frame.

Furthermore, as stated in its initial Comments, SBC is concerned that the Commission may be moving too quickly, and replacing valuable and effective uses of spectrum with speculative and unproven uses.[7] SBC also believes that the Commission would be better off giving techniques, such as spectrum sharing, more time to be tested and implemented in order to avoid displacing and relocating a large number of existing 2 GHz fixed microwave licensees unnecessarily. A long transition period (e.*g*., ten years) would give the Commission and the industry more time and better information before making potentially irreversible, costly, and unwise spectrum and facility relocation decisions. If experience subsequently shows that a ten year transition period is too long or unworkable, the Commission can always, after notice and comment, shorten the period.

In no event should the Commission adopt a transition period which is less than three years. Use of a three year transition period is the absolute minimum necessary. For example, the length of time to construct a

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[7]*SBC Comments*, ET Docket No. 92-9 (June 5, 1992), pp. 1-17, 15-16.

cell site for a conventional cellular system generally ranges from 12 to 18 months from the time that a need for a tower is identified, zoning approval is sought and obtained, the tower is erected and supporting facilities are made available. An even longer construction period could be required, if as SBC suspects, a large number of relocated 2 GHz fixed microwave users will be vying for the same alternative higher frequencies.

Moreover, facilities construction is not the only activity required. The new technology provider and the incumbent will need time to negotiate the terms of the relocation and, if negotiations fail, to submit the matter to arbitration or some other form of dispute resolution. This, alone, could take up to two to three years and, even then, extensions of the transition period could be required. Such extensions should be allowed and should be liberally granted.[8]

Another reason for adopting a long transition period is to provide for advances in technology and spectrum sharing mechanisms. Once methods like SBC's Intelligent Multiple Spectrum Sharing ("IMASS") technique are implemented, the transition costs to both the new technology

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[8]Of course, if voluntary negotiations between the new technology provider and the incumbent prove successful, the transition period can be completed much earlier - one to two years - and adopting a transition period of either three years or ten years will not preclude that result, which should be encouraged but not mandated.

provider and the incumbent could be reduced, and reduced substantially. This would be to the benefit of all concerned, including consumers of the new services who will benefit from their provider having lower entry and lower service costs. Advances in technology over a long transition period could also lower equipment costs for both new service providers and displaced incumbents. Thus, a transition period of ten years would be in the public interest, and should be adopted.

B. The Transition Period Should Not Commence Prior To A *Bona Fide* Request For Relocation.

The Commission indicates that the transition period will commence upon the effective date of a *Report and Order* on the *Further Notice Of Proposed Rulemaking* dealing with re-channelization of the higher frequency microwave bands.[9] Starting the transition period on that date makes no apparent sense.[10]

Quite literally, the Commission is suggesting that the transition period begin even before a *bona fide* request for relocation is served by the new technology provider upon the incumbent owner of the 2 GHz fixed microwave facilities.

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[9]*Third NPRM*, para. 24

[10]In some cases, a request for relocation may never occur. Yet under a literal reading of the *Third NPRM*, all incumbent fixed microwave operators would be required to start planning for relocation upon adoption of the re-channelization order, even though in the end no actual relocation may be requested or required for certain fixed microwave operators.

Under this proposal, there may not be sufficient time in all instances with which to complete the required relocation. For example, assuming the re-channelization Report and Order is issued on July 1, 1993, but a *bona fide* request is not served until July 1, 1995, the relocation would have to be completed in a single year, by July 1, 1996, or in less time than would be needed to construct a cell site and to complete the associated negotiations. Obviously, in this context, the proposed commencement date and ensuing transition period is insufficient and impractical.

The Commission should modify the commencement date of the to-be-adopted transition period. The transition period should not commence prior to the receipt of a *bona fide* request for relocation. A *bona fide* request should be defined for this purpose as a request made by a qualified entity that has been granted and holds proof of a valid FCC license for the specific frequency, service area, and operation in question. Incumbents should not be required to relocate or to begin the transition and negotiations, except on receipt of a valid request for relocation from a qualified entity.

C. The Commission Should Not Eliminate A Transition Period For Unlicensed Devices Or Blanket Licenses.

The Commission seeks comment on whether there should be no transition period applicable to emerging technologies spectrum allocated to unlicensed devices or to

services covered by blanket licenses in the affected bands.[11] SBC is opposed to a zero transition period.

The idea of exempting unlicensed devices or blanket licensed services from the transition period appears to be based on the assumption that there may be less need for a transition with respect to such services or bands due to the absence of harmful interference. This assumption is unsupported and erroneous.

Unlicensed devices are not free from interference problems. Some form of spectrum etiquette must be adopted for unlicensed use of spectrum in order to avoid interference to incumbent systems and, at present, spectrum sharing on a co-channel basis with fixed microwave is not feasible for unlicensed use. Consequently, there is no justification for treating unlicensed devices any different from licensed devices, or for giving users of unlicensed equipment any type of preferential treatment.

In fact, it may be far more difficult to allow new technology providers to use unlicensed devices without causing interference to incumbent users. With unlicensed use, <u>all</u> incumbent licensed users or unlicensed users of the spectrum will need to be relocated before unlicensed new technology providers can effectively use the spectrum. This will be a difficult process, since the current unlicensed users of the spectrum are not even known. In this case, as

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[11]*Third NPRM*, para. 27.

well as others, a transition period will be needed to gather all the necessary data, to clear the involved spectrum, relocate existing users, and to develop the necessary spectrum sharing etiquette requirements and standards for multiple unlicensed users of a common block of spectrum. Under these circumstances, some transition period will be required, and SBC suggests that it be ten years and no less than three years.

D. The Commission Should Not Adopt A Shorter Transition Period Where Less Spectrum Is Available And Where The Success Of Voluntary Negotiation Appears Unlikely.

The Commission seeks comment on whether there should be a shorter transition period in cases where less spectrum is available and voluntary negotiations have not proven successful. In these instances, the Commission opines that a shorter transition period may be required to facilitate the introduction of new services.[12]

SBC is opposed to the adoption of a shorter transition period in the described circumstances. The transition period that is adopted by the Commission should be applied evenly in all cases. In SBC's view, the new technology provider must take the lack of available spectrum into consideration when selecting and designing its system. Simply because a new technology provider selects a geographic area, where there is little or no spectrum

[12]*Third NPRM*, para. 28.

available and where voluntary negotiations may be difficult, does not justify granting that provider the advantage of a shorter transition period. To the contrary, when the provider selects the area, it does so with full knowledge of the facts and implicitly assumes all the related risks, including the lack of available spectrum. Moreover, the new technology provider is not barred from serving the area. Instead, it will simply have to evaluate the circumstances and either accept or reject the associated relocation costs.

E. The Commission Should Adopt A Minimum Time Period For Voluntary Negotiations.

As stated earlier, the Commission should not begin the ten or three year transition period prior to the incumbent operator receiving a *bona fide* request for relocation. If this proposal is rejected, however, SBC agrees with the Commission that there will be a need for a minimum time period for voluntary negotiations after the grant of a license to the emerging technology provider.[13] This time frame also should begin upon receipt of a *bona fide* request.

SBC recommends a minimum period of 18 months from that date for the voluntary negotiations. This period would allow approximately one year for zoning and design of the incumbent's replacement system and six months for facilities construction. Extensions of this time period should be

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[13]*Third NPRM*, para. 28.

allowed in the event of difficulties and should be liberally granted.

IV. TAX CERTIFICATES.

The Commission seeks comment on whether the issuance of tax certificates should be made a part of its proposed transition plan.[14] As stated in its initial Comments, SBC supports the use of tax certificates to make the incumbent eligible for non-recognition of a tax liability that might otherwise be associated with a relocation. The non-recognition should occur because the relocation was not the incumbent's idea. Rather, it is made necessary by a change in the Commission's spectrum policies.[15] The issuance of a tax certificate in this instance will ease the burden on the incumbent and not penalize it tax-wise for having to comply with the Commission's *Order*. Also, as stated in SBC's initial Comments, SBC believes that the tax certificate should be available regardless of whether the incumbent relocates to alternative media or to another frequency band. In either case, the reason for the issuance of the tax certificate is the same. Issuance of a tax certificate should not be limited to instances where the incumbent relocates to alternative media.

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[14]*Third NPRM*, para. 37.

[15]*SBC Comments*, ET Docket No. 92-9 (June 5, 1992), pp. 23-25.

V. SPECTRUM SHARING.

The Commission states that it will encourage spectrum sharing between emerging technologies services and incumbent 2 GHz fixed microwave users whenever technically feasible. The Commission states that it is hopeful that Personal Communications Services ("PCS") spectrum sharing techniques, such as those being developed by APC and Millicom, may prove workable as they will allow co-primary operation on a non-interference basis without the need for relocation agreements.[16]

SBC fully supports the emphasis on spectrum sharing techniques as a viable alternative to relocating substantial numbers of incumbent users of the spectrum. Although not identified in the *Notice*, SBC's IMASS technique is one of the most, if not the most, promising development in this area. As shown by SBC's *Third Quarterly Progress Report*, SBC's testing has verified the IMASS prediction that a PCS system can operate in an area with a high concentration of microwave systems. For example, SBC's testing in Houston has verified that a PCS system can operate without causing interference to a microwave link, in a faded condition, whose co-channel receiver is located one mile away.[17]

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[16]*Third NPRM*, para. 29.

[17]*See SBPC's Third Quarterly Progress Report* (December 17, 1992), pp. 1-1 through 1-9.

Unlike other spectrum sharing mechanisms, SBC's IMASS is unique in that it utilizes active interference avoidance and detailed measurements as opposed to less effective modeling techniques. For this reason, IMASS is able to work effectively and share spectrum in areas with a high density of microwave links (for example, Houston, Texas), while other sharing methods will not work in those areas. The Commission should recognize this difference, and should encourage the continued development of IMASS and other active interference avoidance (measurement-based) techniques.

VI. CONCLUSION.

SBC agrees that guidelines and parameters need to be developed to define "comparable alternative facilities." The distinction between "over-engineered" and "state-of-the-art" or high quality facilities should be recognized. SBC recommends that the guidelines and parameters be developed by an industry forum or standards committee.

SBC favors a transition period of ten years, but in no event less than three years. A long transition period should be adopted to minimize the impact on both new technology providers and incumbent operators, and to reduce excessive relocation costs. A long transition period will also facilitate the development and use of effective spectrum sharing techniques that could eliminate the

necessity of relocation in some cases altogether. This would also substantially reduce relocation costs.

The transition period adopted by the Commission should be applied evenly in all cases. Neither unlicensed use, nor new technology licensees in areas where there is little or no spectrum available, should be given a transition preference.

The transition period should not begin on the effective date of the Commission's *Report and Order* relating to re-channelization plans. It should begin on the date that the incumbent fixed microwave user receives a *bona fide* request for relocation from a qualified and duly licensed new technology provider for the area. Extensions in the transition period should be allowed and should be liberally granted where difficulties in completing the relocation are shown to be present.

The development, effective use, and use of active interference avoidance spectrum sharing techniques, like SBC's IMASS, should be recognized and encouraged, particularly for areas with a high density of existing microwave usage. Such techniques will likely do more than any other known alternative to reduce the costs to new

technology providers and could even eliminate the need for a massive relocation of incumbent users.

Respectfully submitted,

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January 13, 1993

CERTIFICATE OF SERVICE

I, Mark P. Royer, hereby certify that copies of the foregoing Comments Of Southwestern Bell Corporation have been served by first class United States mail, postage prepaid, on the parties listed on the attached.

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