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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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

In the matter of	)	
	)	
Amendment of the Commission's	)	Gen. Docket No. 90-314
Rules To Establish New	)	E.T. Docket No. 92-100
Personal Communications	)	
Services	)	

REPLY COMMENTS OF THE UNITED STATES DEPARTMENT OF JUSTICE

Barry C. Harris
Acting Deputy Assistant Attorney General
Antitrust Division

Communications with respect to this document should be addressed to:

I. Curtis Jernigan
Chief
Economic Regulatory Section

Michael A. Einhorn
Economist
Economic Regulatory Section
Antitrust Division

Richard L. Rosen
Chief
Communications and Finance Section

Rebecca P. Dick
Assistant Chief
Communications and Finance Section

Richard Liebeskind
Donald J. Russell
Luin P. Fitch, Jr.
Attorneys
Communications and Finance Section
Antitrust Division
555 Fourth Street
Washington, D.C. 20001
(202) 514-5800

January 19, 1993

EXECUTIVE SUMMARY

After reviewing the record that is before the FCC, the Department of Justice continues to believe that the Commission's regulatory policies should recognize -- and should seek to foster rather than prevent -- the likely emergence of competition between PCS and cellular licensees. The cellular industry's suggestions that cellular and PCS are or should be distinct markets, and that cellular firms need to be permitted to acquire PCS licenses in order to "enter" the PCS business, should not be accepted by the Commission.

In allocating spectrum among PCS licensees, the Commission should seek to establish the maximum number of efficient service providers, given the amount of spectrum available. In order to ensure meaningful competition between PCS and cellular firms, the Commission must provide sufficient spectrum to PCS licenses to enable them to achieve economies of scale and scope comparable to those achievable by existing firms.

The Commission should also choose geographic license areas that will permit PCS licensees to offer the scope of service that consumers desire, at the least possible cost. The Commission should not choose license areas that will require the industry to undergo a costly or time-consuming adjustment in order to provide service efficiently. Whatever license area is chosen, regulation should not impede post-licensing geographic restructuring of the PCS industry. The Department continues to question the validity of many of the arguments advanced in support of national licenses.

A temporary prohibition on the consolidation of geographically overlapping PCS and cellular licenses would be appropriate in the Department's view. Contrary to the arguments of some cellular firms, such consolidations could pose significant competitive risks. The Commission should, however, commit itself to a reexamination of licensees' spectrum needs within some reasonable period of time, to determine whether the

Commission's initial spectrum awards enable licensees to provide service effectively and efficiently.

Finally, the Department supports the distribution of licenses through auction if statutory authority can be obtained promptly, or through lottery. The Commission should not impose restrictions on the sale of licenses by lottery or auction winners.

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REPLY COMMENTS OF THE UNITED STATES DEPARTMENT OF JUSTICE

I. INTRODUCTION

The Department of Justice ("Department") submits these Reply Comments in further response to a Notice of Proposed Rule Making and Tentative Decision ("Notice"), released August 14, 1992, seeking comprehensive comment on the appropriate structure, licensing and regulatory treatment of personal communications services ("PCS"). The Department, one of the Federal agencies responsible for enforcing the antitrust laws and promoting competition, filed initial comments ("DOJ Comments") in this proceeding on November 9, 1992.

In its initial Comments, the Department offered the following views, among others:

(1) Cellular licensees can offer services in their current spectrum that will compete directly with services that will be offered by PCS licensees. While some cellular and PCS licensees might choose to differentiate their product offerings, they might also -- and more likely will -- choose to compete directly with each

other. That direct competition likely would lead to lower prices and more output in those offerings. The Commission should carefully avoid any regulatory impediments to competition between licensees of cellular and PCS spectrum. (DOJ Comments 5-10)

(2) The Commission should allow entry by as many licensees as are likely to be viable within the 110 MHz that the Commission has tentatively concluded should be allocated to PCS. The Commission must determine, as best it can, how much spectrum a licensee would need to compete effectively with other new licensees and with incumbent cellular carriers, and create as many licenses with that amount of spectrum as the total allocation will allow. The Commission should consider, among other things, whether and how soon the new licensees would be able to use a reasonable amount of licensed spectrum, given the PCS licensees' need to work around or relocate existing fixed microwave users. Licensing three blocks, of 30 MHz each, appears to reflect a reasonable balance. (DOJ Comments 10-15)

(3) The Commission should consider licensing by cellular Metropolitan Service Areas ("MSAs") and Rural Service Areas ("RSAs"), unless it develops substantial confidence that Basic Trading Areas ("BTAs") or Major Trading Areas ("MTAs") are likely to constitute the most efficient service area for PCS. Licensing by MSAs and RSAs would provide certain practical advantages over larger license areas, particularly in that it would avoid conflicts with the cellular licensing scheme and would permit cellular carriers to expand geographically. The Commission should not presume that national licenses are necessary to provide roaming, nationwide handset operability or common air interface standards, in the

absence of evidence that competitive market forces would not adequately and efficiently provide such features. (DOJ Comments 15-23, 33)

(4) In order to permit the market to develop competitively, a temporary prohibition on the consolidation of licenses within service areas (including the acquisition by cellular carriers of PCS licenses in their cellular service areas) is reasonable and appropriate. This rule should be revisited after, e.g., four years, to determine whether it is still warranted based on the development of the industry. Local exchange companies and other cellular operators should be allowed to acquire PCS licenses in areas in which they do not hold cellular licenses. (DOJ Comments 23-30)

(5) Licensing should be by auction or, if auction authority cannot be obtained promptly, by open lottery.

(DOJ Comments 33-34)

The Department's review of some of the comments filed by other participants, and its continuing exploration of these issues, leads it to offer the following reply comments.

II. DISCUSSION

A. Cellular and PCS Licensees Are Likely To Compete with Each Other, and the Commission Should Not License PCS in a Manner That Would Prevent That Competition.

The Department's initial Comments proceeded from several basic premises -- that cellular and PCS licensees generally would be able and likely to compete with each other in providing radio-based mobile telecommunications services (DOJ Comments 5-7; accord Notice ¶ 63), that such competition should not be frustrated by regulatory constraints,[1]

[1] The cellular industry trade association, among others, seeks authority for its members "to offer PCS in cellular spectrum," CTIA Comments 19; accord, e.g., McCaw Comments 45-49, Bell Atlantic Comments 30-31. The Department agrees that cellular

and that combinations of cellular and PCS licenses should be analyzed on the understanding that these licensees would be competing with each other (DOJ Comments 24-28). These premises are consistent with the cellular industry's announced plans -- plans that the industry is now implementing -- to deploy low power microcell architecture designed to support lightweight portable telephones and to deploy advanced intelligent network signaling systems that would support, among other functions, "one person one number" service that could connect calls to subscribers regardless of their location. All the available evidence indicates that the cellular industry can and will participate in these businesses using its licensed 800 MHz spectrum.

Several members of the cellular industry, and its trade associations, have taken a directly contrary view of the mobile telecommunications industry. They have structured their arguments on the proposition that cellular and PCS are or should be sharply distinct markets. From that distinction they argue that they should be eligible for PCS licenses, maintaining that their acquisition of additional spectrum would constitute "entry" into a new market, rather than constituting an increase in concentration and elimination of opportunities for additional entry into an already concentrated market.[2]

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incumbents should not be restricted in the services they offer in the 800 MHz band, see DOJ Comments 8-10, and the Commission has already given cellular licensees substantial freedom within those bands. Report and Order, In the Matter of Amendment of Parts 2 and 22 of the Commission's Rules to Permit Liberalization of Technology and Auxiliary Service Offerings in the Domestic Public Cellular Radio Telecommunications Service, 3 FCC Rcd 7033 (1988) (Gen. Docket No. 87-390).

[2] See, e.g., BellSouth Comments 48 ("cellular service and low-power PCS appear to be essentially distinct product markets ... under these circumstances, the Commission's concerns regarding cellular carriers' competitive role with respect to PCS appear to be unfounded"); CTIA Comments 65 ("some personal communications services may be independent of traditional cellular, so that allowing cellular operators to enter raises no competitive concerns, while others may be complements to traditional cellular, so that there are competitive benefits from allowing entry"); US West Comments 24 ("there is no plausible basis for barring telephone companies from PCS simply because their affiliates

According to published reports, portable phones now account for half or more of all cellular phone sales, and are the fastest growing segment of equipment sales.[4] US West, which claims to lead the industry in the sale of portable phones, is installing narrow-band analog technology to improve portable phone service in Minneapolis, Seattle and Denver. Ameritech, BellSouth and McCaw are marketing wireless data services supported by their cellular infrastructure and spectrum.[5]

Cellular operators have been installing more and more, smaller and smaller cells -- both to increase their system capacity and to support lower power, portable handsets. Bell Atlantic, Nynex, PacTel, and Centel have already installed microcells in their largest systems. Bell Atlantic recently announced plans to use microcells to extend its cellular network into the Washington Metro system's stations and tunnels.[6]

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[4] McCaw Comments 25-26; Omnipoint Comments 2; "Cheap Prices and New Gadgets Keep Cellular Market Humming," Warfield's Business Record, June 5, 1992; "RF: From Microwaves to Microcells," Telephony, Feb. 10, 1992, p. S5; "Bell Atlantic Mobile Systems Takes Major Step Toward Delivering Personal Communications Services," PR Newswire, Feb. 11, 1992; First Boston Co., "The Future of the Cellular Telephone Industry" Dec. 27, 1991 (70-80% of new equipment sales in most markets are portables). One analyst predicts that "[p]ortable phone sales will explode from $380 million in 1991 to $1.2 billion in 1998, ... while mobile phones level off and sales of larger transportable and 'bag' phones decline." "Wireless World: World Cellular Phone & Pager Markets to Top $6 Billion by 1998," Edge, Sept. 14, 1992 (Predicasts).

[5] "John DeFeo Tells Why US West Succeeds in Cellular," Mobile Phone News, Aug. 27, 1992 (Predicasts); "More Businesses Placing an Order for Data-to-go; Cellular Systems Help Keep Field Workers in Touch," Chicago Tribune, Mar. 15, 1992, p. 6.

[6] "RF: From Microwaves to Microcells," Telephony, Feb. 10, 1992, p. S5; "Cellular Operators Offer Unique Approaches to Digital Evolution," Mobile Phone News, Sept. 10, 1992 (Predicasts); see also CCI Comments 5; Nynex Comments 18. For example, Nynex first served the New York area with 18 high-power cells, and now has more than 100 cells serving the same area, Telephony, supra, and plans to add 340 cells throughout its system. Mobile Phone News, supra. Those cells are intended to address "dramatic demand for portable cellular phones on its system." "Nynex Becomes Digital Ready with Installation of AT&T Equipment," Mobile Phone News, Aug. 13, 1992 (Predicasts); "Metro System to Get Bell Atlantic Cellular Service," Business Wire, Oct. 8, 1992.

We believe that the factual record thus far, and our continuing study of this industry, confirm our original view: There does not appear to be any technological or economic impediment, and there should be no regulatory impediment, to direct competition between cellular and PCS licensees. Cellular carriers are increasingly providing the paradigmatic PCS service -- lightweight portable mobile telephones -- in the 800 MHz band. The possibility that various licensees, in either spectrum band, may choose to provide some services that other licensees do not provide is not determinative of whether they are competitors. Rather, cellular and PCS licensees should be viewed as competitors so long as they are expected to provide substitutable services for a not-insubstantial number of customers.[3] And, that appears likely to be the case.

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may provide cellular service in the same areas. First, PCS and cellular service are different"); Bell Atlantic Comments 9 ("there may be a need for separate low-power [portable] personal radio systems and high-power vehicular radio systems"). The United States Telephone Association ("USTA"), which describes itself as "the principal trade association of the exchange carrier industry," Comments at 1, asserts that "cellular and PCS are distinct offerings," contrasts PCS, "a new, competitive service offering" using "low-power portable [hand]sets," with cellular, supposedly distinguished from PCS by cellular's use of "high-power vehicular sets," and argues that cellular incumbents' acquisition of PCS licenses will allow those firms to "provide new services priced differently from cellular and designed to meet different customer needs." Id. 18.

[3] Some cellular operators claim to need additional spectrum to provide high-speed wireless data services (e.g., Bell Atlantic Comments 9 n.15; Nynex Comments 19-20), even though 800 MHz licensees will soon offer high-speed wireless data services in the 800 MHz band. McCaw, for example, has entered into a joint venture with IBM to support wireless personal computers using McCaw's 800 MHz system. "McCaw Cellular and IBM Form Joint Marketing Agreement," Business Wire, Nov. 5, 1991. While it is possible that "macrocellular" systems may have an advantage over "microcellular" systems in providing fast handoff for automobile phones, see DOJ Comments 6 n.7, technological development might soon erase that distinction as well. See "PacTel to License MicroCell Technology to Decibel Products," Business Wire, Feb. 11, 1992 (PacTel patented microcell technology and software "enables a carrier to provide high-speed handoffs of callers' conversations from one microcell to the next, or from micro to macrocells"). We are unaware of any technical reason that would prevent the use of similar microcellular technology in the 1.8 GHz band, but of course we defer to the Commission's greater expertise concerning such technical issues.

Southwestern Bell, Nynex, McCaw and Bell Atlantic have plans to deploy digital radio in their 800 MHz cellular systems, and Bell Atlantic has ordered 40,000 dual-mode (analog/digital) phones from three suppliers. McCaw plans to deploy digital technology in Miami, New York, California and the Pacific Northwest, and Nynex has installed cell site equipment capable of supporting digital radio in 340 cells in New York and New England.[7] Economists retained by the cellular industry's trade association note that "[t]he conversion to digital technology, despite the substantial investment required, promises to yield even greater increases in system capacity and lower average costs for cellular operators."[8] Commenters other than the cellular incumbents themselves generally view PCS and cellular licensees as future direct competitors,[9] as does a Commission staff analysis:

> [T]echnical advances will likely reduce these differences [between high-power 'cellular' and low-power 'PCS' services] in the near future. The larger similarities

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[7] "Cellular Operators Offer Unique Approaches to Digital Evolution," Mobile Phone News, Sept. 10, 1992 (Predicasts); "Nynex Becomes Digital Ready with Installation of AT&T Equipment," Mobile Phone News, Aug. 13, 1992 (Predicasts); Nynex Comments 18 n.31; Southwestern Bell Comments 10.

[8] Besen et al., "An Economic Analysis of Entry by Cellular Operators Into Personal Communications Services," p. 7, CTIA Comments Att. A (hereafter "Besen"). A recent book by lawyers employed by the Bell Operating Companies notes that, "with relatively modest additional investments in digital technology, the capacity of cellular systems will increase roughly ten-fold, driving the cost down to perhaps as little as a couple of hundred dollars per local circuit" -- or substantially lower than the cost of landline circuits. P. Huber, M. Kellogg & J. Thorne, The Geodesic Network II: 1993 Report on Competition in the Telephone Industry, at 1.23 (1992) (hereafter "Geodesic II"). The use of spectrum-efficient digital systems should provide the same dramatic cost reductions for 800 MHz and 1.8 GHz carriers, by reducing the number of expensive radio cell sites required to support a given amount of service.

[9] E.g., Northern Telecom Comments 5 ("each of the territories is currently supporting two cellular carriers ... [t]hus, the three PCS licensees will face significant competition from ... additional wireless services"); Tandy Comments 6 ("PCS may well be a major competitor of cellular services"); Ericsson Comments 27 ("licensed PCS services and even some unlicensed services will be competitive with existing cellular operations").

> between PCS and cellular foretell direct competition in price, features and quality between these close substitutes. Consequently, cellular operators rightly can be viewed as already being PCS providers with 25 MHz spectrum allocations.[10]

We agree with this assessment, and urge that the Commission not stand in the way of this emerging competition. Cellular incumbents should be allowed to compete with PCS entrants by offering new services in their 800 MHz band, just as PCS licensees should have the freedom to offer services in the 1.8 GHz band that compete with the range of services offered by cellular carriers. Cellular incumbents should not be protected in the "high power" high price niche that some of them seek to carve out for themselves. If PCS engineers can figure out ways to serve high-speed automobile traffic in the 1.8 GHz band, the Commission's rules should not prevent them from doing so.[11] It is neither unfair nor "penaliz[ing]" (CTIA Comments 31) to expose cellular operators to competition that will force them to adopt more efficient technology, expand output, and price at competitive levels.[12] Regulations that would prevent PCS licensees from challenging

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[10] Reed, "Putting It All Together: The Cost Structure of Personal Communications Services," OPP Working Paper No. 28, at 57 (1992) (hereafter "Reed") (emphasis added).

[11] BellSouth, for example, argues that PCS should be limited to "new" low power services. (BellSouth Comments 9-13) "As a result, cellular systems and new PCS licensees will be competitors only to a very limited degree," and "cellular service prices in 2002 [are predicted to] remain[] 14-67% higher than the price for 'personal communications service' and as much as three times as expensive as telepoint service." (Id. 48 n.96) What BellSouth fears -- and what the Commission should not prevent -- is that PCS licensees will perceive "the immediate market potential of a new source of cellular service." (Id. 12) That "market potential" would exist only if providers of a lower cost service offer an option desired by a substantial number of customers.

[12] Comments by some cellular carriers suggest that prices will indeed fall as capacity is increased through new technology:

> The developer of a new major market PCS network will be able to build a more efficient and lower cost network architecture than the cellular provider, whose network architecture is based on a design developed in the early 1980's .... Lower cost competition will drive down prices at a rate which may be too rapid to allow cellular operators to invest in their current network adequately to meet customer

cellular licensees and vice-versa would be plainly anticompetitive. The Commission appears fully aware of this danger, and is disinclined to adopt such anticompetitive regulation. Notice ¶¶ 26, 105, 116, 130. The Commission should adhere to its initial view.

B. The Commission Should Allocate Spectrum To Create the Maximum Number of Efficient Service Providers, Given the Total Amount of Spectrum To Be Allocated to PCS.

In deciding how much spectrum should be allocated to each PCS licensee, the Commission should, in our view, seek to establish the maximum number of efficient service providers, given the total amount of spectrum it decides to allocate to this use. If the Commission grants "too much" spectrum to each licensee, fewer firms will be able to compete to provide wireless services, oligopolistic pricing is more likely, and output of mobile services is more likely to be reduced from its optimal level. On the other hand, if the Commission allocates "too little" spectrum to each licensee, the licensee might be unable to provide its service efficiently. In the worst case, the inability to provide efficient service may prevent the licensee from entering the market at all. In other cases, the licensee may be able to enter, but will be unable to exert substantial competitive pressure on the incumbent cellular carriers.

> needs. Therefore, while overall price levels may be lowered, current and future cellular customers may be disadvantaged by the inability of current operators to invest in R&D, new product and service enhancements, and technological upgrades to meet those needs.

USTA Comments 18, quoting Letter of John E. DeFeo to Commissioner Barrett, Jan. 15, 1992, at 4 (Gen. Docket No. 90-314). The fear of "too rapid" a drop in prices indicates that cellular service prices today are higher than they would be if the Commission's policies produced additional competition. The Commission should not preclude competition that might force a firm that wants to gain or retain business to invest in efficient technology in order to meet the lower cost structure of more efficient firms. Only if the Commission prevents this competition could firms decline to invest in more efficient capacity, restrict output, and keep prices up.

The Department does not purport to know the precise amount of spectrum that would constitute the optimal allocation for each licensee, and we defer to the Commission's greater technical expertise in this area. In making that determination, however, we urge the Commission to consider how much spectrum a new entrant would need to establish a viable business that would be able to compete with incumbent 800 MHz carriers. The initial comments indicate that, if meaningful new competition between incumbents and entrants is to occur, new PCS entrants will need enough spectrum to achieve the same economies of scale[13] and scope[14] being sought by cellular incumbents, who are now rapidly enhancing their 800 MHz systems to offer the same services. (See p. 7 above)

The implication for potential PCS entrants is obvious: If spectrum limitations preclude new entrants from achieving economies of scale and scope comparable to those of existing firms, they will not enter as independent competitors. In order to assure that

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[13] Economies of scale in providing mass market mobile service (as compared to traditional, higher priced cellular service) could be associated with lower infrastructure cost per user, and lower handset costs for low-power units designed to communicate with nearby low power base stations.

[14] Economies of scope might arise in providing several differentiated mobile services (e.g., portable phone service, data service, and paging) over common radio, backhaul and switching facilities. As CTIA's economists note, "[i]f there are economies of scope in supplying PCS and cellular services, for example, a single firm supplying both would achieve lower average costs for each service than would two firms ... establishing commercial cellular service." (Besen Report 2) Our understanding is that these different services probably can be provided over common facilities in either the 800 MHz or 1.8 GHz bands, if sufficient spectrum is available in the band. Suggestions by cellular incumbents (e.g., CTIA Comments 67-69; McCaw Comments 31) that additional economies of scope might arise from licensing 1.8 GHz spectrum to holders of 800 MHz licenses are in our view unproven. We are unaware of any evidence of synergies from utilizing both bands rather than concentrating in one; indeed, it is not clear that customer terminal equipment will be able to operate practically at both frequencies. Intuitively, one would suspect that potential economies of scope might be greater if serveral services were provided in the same band -- either 800 MHz "cellular" spectrum or 1.8 GHz "PCS" spectrum -- than if one firm attempted to provide multiple services in two different bands.

the results of this Rulemaking will be to "provide a greater overall level of competition" in mobile services (Notice ¶ 4), the Commission should pay close attention to the likely spectrum needs of new entrants.[15] Competition will not be best served merely by creating a larger number of licenses if doing so requires the limited available spectrum to be divided into smaller license units than are needed to achieve efficiencies comparable to those available to incumbent cellular licensees.[16] Only actual entry by technically strong firms with competitive cost structures will provide much needed competition to the mobile communications markets.

C. The Commission Should Seek To Ensure that the Industry Can Achieve the Most Efficient Geographic Structure Promptly and at Reasonable Cost.

The Commission should attempt to devise a regulatory scheme that will permit the rapid development of PCS networks that can compete with the incumbent cellular providers and provide the geographic coverage that consumers desire, in an efficient manner. This goal may or may not require that the geographic scope of PCS licenses approximate the geographic scope of the "seamless service" that many observers believe consumers want. The experience of the cellular industry suggests that mergers, roaming arrangements, and other measures can be arranged -- albeit at some cost -- to facilitate the provision of services throughout geographic areas much larger than the Commission's

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[15] See, e.g., American Personal Communications Comments 10, 11, 12 n.18 & Att. A; Cox Comments 8; Northern Telecom Comments 7; all discussing implications of sharing 1.8 GHz spectrum with current users.

[16] Although, as we have said, the Commission's basic objective should be to ensure that PCS licensees have sufficient spectrum to compete with the incumbent cellular providers, it does not necessarily follow that all PCS licenses should be identical. Economies of scope may permit some firms to provide services efficiently while using significantly less spectrum than other firms would need. Therefore, it is possible that awarding some PCS spectrum in smaller spectrum blocks could provide greater benefits than if all spectrum were licensed only in larger blocks.

initial licensing areas. The difficult issue here is to determine how significant that cost might be.

It is certainly desirable for the Commission to seek to avoid excessive post-licensing market restructuring. However, since the Commission lacks a clear picture of what the optimal structure of the nascent PCS industry will be, the best that the Commission can hope to do is to ensure that its regulatory scheme permits post-licensing restructuring, and minimizes the industry's cost of achieving the most efficient structure. Such considerations should be paramount, in our view, because it is exceedingly difficult to discern the "best" geographic structure of this market, and because the best structure today may not be the best structure after the industry has developed further.

Accordingly, the Department's consideration of the geographic scope of licenses has focused primarily on how the Commission's licensing scheme can best facilitate the industry's post-licensing adjustment to appropriately sized geographic service arrangements. On the basis of these considerations, the Department suggested in its initial comments that there were some advantages in designating PCS license areas that coincide with cellular license areas, i.e., MSAs and RSAs, but recognized that there might be some advantages in using BTAs or MTAs. (DOJ Comments 15-23) The Department also questioned the validity of the purported justifications for issuing one or more PCS licenses on a nationwide basis.

Some commenters have advocated one or more nationwide licenses, arguing that such licenses would facilitate the adoption of technical standards.[17] The prompt adoption of a national standard may enable equipment manufacturers to achieve economies of scale by ensuring that there will be a sizable customer base for the standard that is chosen,

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[17] E.g., Bell Atlantic Comments 18-22; MCI Comments 12.

and might facilitate inter-system operability of equipment. Expediting the attainment of economies of scale could be significant and should not be denigrated. But it should not be overstated. The potential advantage of initially awarding national licenses would appear to be limited to timing rather than ultimate quality of service. There is no reason to believe that a national licensee (or consortium of licensees, including manufacturers with vested interests in selling their own proprietary technology) would make "better" technology choices than would independent firms who have the option of deploying technology chosen from among multiple standards that are likely to be developed by relatively disinterested industry groups. If the ability to offer nationwide service is a competitive necessity, regional licensees are likely to reach agreement on a common air interface, roaming arrangements, and any other standards needed to provide such service. It is not clear, however, that such a process would yield a single, industry-wide standard, or whether, instead, it would produce multiple standards. It is also unclear how much cost and delay would be associated with reaching such agreements.

There are other considerations that might render illusory any potential timing advantages of utilizing national licenses. To the extent that the Commission feels compelled to distribute national licenses through a comparative hearing process rather than by lottery,[18] the earlier deployment potential for such licenses may be lost because the comparative hearings needed to award such extremely valuable licenses are likely to be protracted, hotly contested and the subject of repeated appeals. It is worth noting that while this prolonged process continues, the incumbent licensees will likely extend their head start on new entrants.

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[18] See DOJ Comments 19 n.20. Indeed, the advocates of national licenses urge that those licenses be distributed through comparative hearings, if auction authority is not forthcoming. MCI Comments 13-17; Bell Atlantic Comments 28-30.

Awarding national licenses could force the Commission to choose between two competitively undesirable options. It would either have to bar cellular firms from participating in a national license because they would compete with it in some geographic areas, or it would risk the dilution of potential rivalry between PCS and cellular firms in those areas. Attempts to reach a "compromise" that would avoid either of these unhappy situations would involve the Commission in complex and time-consuming rule-making proceedings that could dissipate any expedited deployment advantages that otherwise might be thought to flow from utilizing a national license system.

The utilization of national licenses would have other potentially undesirable effects. Such a system would severely reduce the number of firms able to participate in the industry. While national-vs.-local licensing may not significantly affect the number of firms offering facilities-based competition in any particular area, it will reduce the number of firms in the industry as a whole. This may have adverse competitive consequences to the extent that it reduces market innovation in services offered or technology deployed.

The consortium approach advocated by some commenters (notably PCN America and MCI) appears to contemplate a significantly greater level of ongoing regulation than the Commission itself contemplates. As the Department observed, if PCS is licensed in a manner designed to establish a competitive market, then the particulars of the service may largely be left to the market. (DOJ Comments 3-4, 8-10) Consortium proponents offer detailed schemes for the operation of one or all of the national licenses (including, for example, allocating responsibilities between national and local licensees, and setting participation requirements to prevent the "consortia" from becoming controlled by a single firm). If those schemes are to be conditions on the license, and the Commission is to

assure that the schemes are not abandoned, the regulatory burden will be significantly greater (and the concomitant drag on innovation and market response may be greater) than if a different geographic licensing policy is adopted.

Just as awarding a PCS license with an inadequate amount of spectrum will hamper the ability of PCS licensees to compete effectively with the incumbent cellular providers, awarding PCS licenses with inadequate geographic scope might have the same effect. The experience of the cellular industry indicates that consumers prefer service coverage over areas larger than MSAs and RSAs. In order to meet this consumer demand, the cellular industry has undergone numerous mergers and acquisitions to consolidate licenses; has developed technology standards to facilitate inter-system calls; and has entered into business arrangements that enable licensees to offer seamless roaming service. PCS licensees would need to go through a comparable process if their licenses are limited to a geographic area that is smaller than the service area desired by their customers. The Commission should carefully consider how much cost and delay would be associated with that process[19] when it chooses the size of PCS license areas. If the cost and delay are significant, PCS licensees would be placed at a disadvantage relative to cellular incumbents, an outcome the Commission should seek to avoid.[20]

Regardless of the license areas the Commission chooses to employ, it should freely permit geographic consolidation and de-consolidation of licenses. Firms should be allowed

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[19] The Commission should also consider whether larger license areas will reduce the cost or difficulty of frequency coordination. Geographically adjacent licensees must coordinate their use of frequencies to prevent interference with one another's services. All other things being equal, the need for coordination increases as the number of adjacent cell sites under different ownership increases.

[20] Since both local and regional PCS licenses have advantages and disadvantages, the Commission might also want to consider issuing some licenses of each type.

to expand the geographic scope of their operations by acquiring licenses in areas they do not currently serve, and should be allowed to sell licenses to other firms that do not already compete in the area being divested. Moreover, firms should be allowed to acquire and sell rights to serve any portion of a geographic area, in effect re-drawing the license areas originally chosen by the Commission. If the Commission explicitly establishes such transfer rights, market forces can more readily act to establish the most efficient geographic structure for the industry, and the adverse consequences of any "mistake" by the Commission in drawing the boundaries of license areas will be minimized.

D. During the Developmental Period of PCS, the Commission Should Not Permit the Consolidation of PCS or Cellular Licenses.

The Department's initial comments advocated a temporary prohibition on the acquisition of multiple PCS licenses or the common ownership of PCS and cellular licenses. (DOJ Comments 23-29) We continue to hold that view. Even if more than three new PCS licenses are created, the number of licenses granted is likely to be sufficiently limited that a temporary rule against license consolidation is appropriate to ensure that the market can develop in the most competitive manner possible. If consolidations are allowed immediately, the Department believes there is a substantial risk that the existing cellular duopoly will continue to dominate the market, defeating the Commission's intent to make this business more competitive, and threatening the possibility that digital radio services could compete effectively with landline telephone service.[21] If the Commission

[21] The Department supports allowing landline telephone local exchange companies ("LECs") to acquire PCS licenses in service areas where they have local exchange operations but do not have cellular systems. (DOJ Comments 30) The Department noted that there are competitive risks that arise when regulated monopolists, such as local telephone companies, enter unregulated businesses that depend on the monopoly service. Those risks arise from LEC entry into the provision of cellular service and PCS. The Department noted, however, that the Commission had concluded that LEC provision of

adopts a temporary rule against consolidations, and multiple new systems are either not built or not successful, the Commission should reexamine the issue generically or on a case-by-case basis.[22]

After this industry has had an opportunity to develop competitively, the Commission can fashion an approach to consolidations, based on greater knowledge, that permits a competitive and efficient market structure in the markets that emerge[23] But if consolidations (including acquisitions of PCS licenses by in-market cellular operators) are allowed at the outset, and fewer systems are built, the world and the Commission will never know whether a more competitive market structure could be sustained unless the Commission allocated still more spectrum to wireless services.

Some incumbent commenters advance competitive propositions designed to show that any ban on consolidation of cellular and PCS licenses is unnecessary. These

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cellular service should be permitted, subject to prophylactic regulation designed to prevent anticompetitive conduct. LEC entry into PCS, which raises similar competitive concerns as LEC provision of cellular service, should receive comparable regulatory treatment.

We continue to believe that the Commission should monitor carefully the competitive practices of LECs that provide unregulated mobile services. A prohibition on LEC entry into wireless services does not appear to us to be warranted at this time. Regulation by the Commission or, in appropriate circumstances, antitrust enforcement by the Department would appear to be sufficient to protect competition at this time.

[22] The Department will also review future consolidations under Clayton Act § 7, 15 U.S.C. § 18. However, the Department would not have jurisdiction to review the initial awards of licenses under § 7, since the award of a license might not be an acquisition of "the whole or any part of the assets of another person engaged also in commerce or in any activity affecting commerce." The Commission, of course, is obliged to consider competitive issues under the Communications Act. See, e.g., National Broadcasting Co. v. United States, 319 U.S. 190, 222-23 (1943).

[23] Different markets may well support more or fewer systems. Neither the Department nor the Commission can know at this time which markets will support five or seven independent firms, and which will only support two or three. Arguments about market demand or efficiencies that might be made by (or against) consolidating firms will be far more speculative in this context than in a more mature industry.

propositions are to our mind unpersuasive. For example, Southwestern Bell simply asserts that two cellular carriers provide "a choice," and that that choice alone "stimulates and ensures adequate competition." (Southwestern Bell Comments 12 & n.18) This argument is inconsistent with the Supreme Court's merger decisions and competition analysis generally.

CCI argues that "competition will be enhanced materially" even if each of the two cellular incumbents is allowed to acquire one of three new licenses, leaving one "PCS" entrant with only about 20% of the area's mobile services spectrum. CCI asserts that "entrants beyond the third do[] not materially increase the competitiveness of the market beyond the situation in which three parties compete." (CCI Comments 11-12) Even if one were to accept the proposition that a single additional mobile services supplier would ensure a competitive market, CCI's conclusion rests on two assumptions that might not come to pass: First, CCI assumes that the third system will choose to compete head-to-head with the cellular incumbents, who would be offering mobile and portable telephones and other services. That challenger, with less spectrum, might instead attempt to develop niche products (such as Telepoint-type services or wireless PBX) to serve "market segments specialized by reason of profession, geography, personal needs, or other factors." (CCI Comments 3) Second, CCI assumes that cellular and PCS licensees will face competition from other sources, particularly specialized mobile radio ("SMR") and low earth orbit satellites ("LEOs") -- technologies whose competitive significance is speculative at best. (CCI Comments 8)[24]

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[24] While there is a prospect of future competition from enhanced specialized mobile radio ("ESMR") or satellites, none of those alternatives exists today. The first ESMR system is expected to be operational in the summer of 1993, and ESMR service is now planned only in the six largest markets. Fleet Call Comments 2. It is our understanding that existing SMR services have only limited functionality compared with cellular. In

The Department agrees that the addition of a third viable competitor is a significant improvement over the duopoly in today's cellular markets. The Department strongly disagrees with CCI's further assertion that a fourth or fifth competitor's entry is likely to be insignificant.[25] Up to the point where significant efficiencies are lost, the

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particular, since traditional SMR is a high power service supported by a single transmitter, it has less ability to serve portables and has some difficulty serving rough terrain (including hilly areas such as Los Angeles and heavily built areas such as Manhattan). While the cellular industry now urges that ESMR is a competitive presence in mobile radio telephone markets (e.g., CTIA Comments 64, McCaw Comments 9), those same cellular incumbents had attempted to delay Fleet Call's providing competitive services in SMR frequencies by insisting on a formal rulemaking. In re Fleet Call, Inc., 6 FCC Rcd 1533, at 24-28 (1991) (LMK-90036). Neither geostationary nor low-earth orbital satellites are now providing commercial telecommunications services, and those services (when offered) are not likely to be price competitive with cellular or PCS.

[25] Even assuming its correctness, the study cited by CCI hardly supports the proposition that "the addition of a third firm breeds a rivalry capable of simulating competitive performance levels." CCI Comments 12, citing Kwoka, "The Effect of Market Share Distribution on Industry Performance," 61 Rev. Econ. & Statistics 101 (1979). Kwoka argued that the four-firm concentration ratio (then commonly used to measure concentration) "is incapable of establishing exactly what features of industries are important, how important they are in toto, and what their relative performance is." Id. at 108. Rather, "large market shares for the two leading firms seem most decisive for industry price-cost margins, with a depressing effect from a sufficiently large third share." Id. (emphasis added). In other words, Kwoka believed that a two-firm concentration ratio of, e.g., 25% to 35%, was a better predictor of supracompetitive profits than the four-firm concentration ratio then in use; and that "a large third firm" was more likely to be a rival than a participant in a coordinated price rise. Kwoka's results, which suggest that competitive performance in a market with two large firms and a scattered competitive fringe might be worse than in a similar market with two large firms and a strong third rival, do not begin to support the proposition that allowing the two incumbent firms to acquire additional spectrum will stimulate competition so long as a third firm also receives PCS spectrum. The Herfindahl-Hirschman Index, used by the Department since 1982, "reflects both the distribution of the market shares of the top four firms and the composition of the market outside the top four firms. It also gives proportionately greater weight to the market shares of the larger firms, in accord with their relative importance in competitive interactions." DOJ/FTC Horizontal Merger Guidelines § 1.5 ("Merger Guidelines").

Commission should assume that the goals of competition are more likely to be advanced by more rather than fewer market participants.[26]

The Besen analysis, submitted by CTIA, assumes away many relevant issues in its attempt to show that cellular-PCS consolidations will not be anticompetitive. Even its "worst case" analysis, based on the scenario that cellular and PCS are direct competitors assumes "that each of these five [PCS] assignments has the same capacity as each of the two existing cellular assignments," id. 22, even though the PCS licensees will have 20% less total spectrum than the cellular licensees and their 1.8 GHz spectrum is not clear; and then considers the acquisition of a fraction of a PCS license by one cellular incumbent, rather than what the cellular incumbents seek -- the right for both incumbents to acquire two entire PCS licenses. Id. 22-23; compare, e.g., CTIA Comments 62-65 (arguing for unrestricted cellular eligibility).[27] The Besen analysis should not

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[26] Economic theory generally predicts that prices will be higher and output less in markets with fewer rather than more competitors, or in markets that are more highly concentrated, absent mitigating factors. See, e.g., F. Scherer & D. Ross, Industrial Market Structure and Economic Performance 277-78 (3d Ed. 1990); 4 P. Areeda & D. Turner, Antitrust Law 910b, at 55 (1990) ("there is general agreement that beyond some point the smaller the number of firms and the larger the share of the market dominated by one or a relatively few firms, the greater the likelihood of substantial departures from competitive performance, particularly with regard to price"); Stigler, "A Theory of Oligopoly," in 72 J. Political Econ. 44-61 (1964). Many studies have found a statistically significant positive correlation between price and market concentration. See Schmalensee, "Inter-Industry Studies of Structure and Performance," in 2 R. Schmalensee & R. Willig, Handbook of Indus. Org. 987-88 (1989) (collecting studies); L. Weiss, Concentration and Price 268 (1989) ("overwhelming support" to support concentration-price hypothesis).

[27] Even if the Commission were to issue some PCS licenses for small blocks of spectrum, we believe the Commission should not permit acquisitions of those licenses by other PCS or cellular licensees unless it is convinced (1) that such acquisitions are necessary to achieve significant economies of scope that could not be realized within the acquiror's spectrum allocation, and (2) that such economies would outweigh any possible costs arising from diminished competition. In balancing those costs and benefits the Department suggests that doubts be resolved in favor of prohibiting such acquisitions, on the grounds that such a prohibition can later be reversed, if warranted, after more

persuade the Commission to allow unrestricted consolidation of mobile service licenses at this time.

Several cellular incumbents argue that they should be permitted to acquire PCS licenses in order to achieve economies of scale or scope.[28] The "economies of scope" from producing both "cellular" and "PCS" service, in the sense asserted by the cellular industry, arise from the industry's claim that cellular and PCS services are two different products, even though they are both produced using the same infrastructure. There may well be economies of scope in providing support for both automobile and handheld phones from the same infrastructure, i.e., by attaching both macrocells and microcells to the same backhaul and switching plant. The cellular industry is doing that today. (See p. 6 above) The cellular commenters fail to demonstrate, however, that it is necessary to have spectrum in both the 800 MHz band and in the 1.8 GHz band in order to achieve these economies. Indeed, cellular carriers' current operations and their announced plans strongly suggest that those economies of scope can be achieved by serving portable phones in the 800 MHz band -- as the cellular industry is doing today.

The cellular industry also argues that allowing them to acquire 1.8 GHz licenses will give them greater freedom to convert their existing 800 MHz spectrum to digital radio.[29] Cellular providers, however, already have the authority to deploy digital technology and have been doing so. (DOJ Comments 10; p. 7 above) The continuing regulatory obligation to provide some AMPS service (which the Department advocates

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evidence accumulates on the relevant costs and benefits.

[28] E.g., CTIA Comments 67-69; US West Comments 24; BellSouth Comments 43;

[29] Bellsouth Comments 47; Southwestern Bell Comments 11; CTIA Comments 66; McCaw Comments 29-30.

removing, DOJ Comments 9-10 & nn.11-12) is likely to require at most some small fraction of the incumbents' current 25 MHz allocation, much less than the amount of spectrum that they seek to add to their current allocations.

Whatever the relationship may be between the size of spectrum allocations and efficiencies -- a question on which we defer to the Commission -- we believe that the cellular comments are misdirected. In our view, economies of scale and scope should be considered carefully by the Commission in deciding how much spectrum should be allocated to each licensee in order to assure that it can provide services effectively and efficiently. (See p. 11 above; DOJ Comments 27) Having made that determination based on this record and its expertise, the Commission should not permit immediate license consolidations on the basis of arguments about efficiencies that the Commission has just rejected. Rather, it should allow a reasonable period of time for the mobile services market to develop in a competitive manner, with rough parity among firms. The Commission should commit itself to a reexamination of licensees' spectrum needs within some reasonable period of time, e.g., four years, and should undertake that reexamination even sooner in the face of convincing evidence that spectrum allocations are too small to permit substantial economies.[30]

E. Either Auctions or Open Lotteries Will Best Achieve the Commission's Goals.

In our opening comments, we expressed the view that distributing licenses by auction will most likely result in their coming to be held by the firms that will put them to the most profitable use. (DOJ Comments 33-34) If statutory authority for auctions cannot be obtained promptly, a lottery and a secondary market for licenses can

[30] That being said, there is no reason to permit the cellular incumbents to have their cake and eat it too, by arguing that PCS entrants need only 20 MHz of spectrum, but that they must be allowed to acquire a total of 45 MHz in order to operate efficiently.