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Building The Wireless Future™

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April 25, 1994

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. Room 222
Washington, D.C. 20554

Re: Ex Parte Filing
GEN Docket No. 90-314
Personal Communications Services

Dear Mr. Caton:

On Friday, April 22, 1994, ten copies of the attached letter, and report entitled *Response to En Banc Meeting on PCS Issues*, were served on Mr. Ralph A. Haller, Chief of the Private Radio Bureau, and Chairman of the PCS Task Force.

Pursuant to Section 1.1206(a)(1) of the Commission's Rules, an original and one copy of this letter and the attachment are being filed with your office.

If there are any questions in this regard, please contact the undersigned.

Sincerely,

Robert F. Roche

Attachments

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Randall S. Coleman
Vice President for
Regulatory Policy and Law

April 22, 1994

Mr. Ralph A. Haller
Chief, Private Radio Bureau
Federal Communications Commission
2025 M Street, N.W., Room 5002
Washington, DC 20554

Re: April 11-12, 1994 Roundtable
Discussions re GEN Docket No. 90-314

Dear Mr. Haller:

Today, the Cellular Telecommunications Industry Association (CTIA), filed its comments on the PCS Roundtable Discussions held by the Commission's PCS Task Force on April 11th and 12th. A copy of that filing is attached.

Therein, CTIA points out that the Roundtable Discussions evinced the formation of a consensus among the panelists on two issues regarding the reconsideration phase of this proceeding. That consensus can be characterized as follows:

- don't delay, make best choices possible with dispatch, and
- PCS is a "broad family" of services -- it is more than just cellular.

The attached analysis of the Roundtable discussions also concludes that the arguments for 30 MHz, 40 MHz, or 50 MHz blocks come to little more than the following wish list of certain parties to this proceeding:

- give big block licensees a guarantee of success, and
- limit competition to create that guarantee

CTIA also finds that objections to 10 MHz and 20 MHz blocks are smokescreens -- interference, delay, investment expense -- for PCS "on the cheap" and for limiting competition

Having reached these conclusions, CTIA urges to Commission to foster the PCS objectives -- to create competition, foster technological innovation, promote opportunities for diversity -- by:

- Adopting 10 MHz and 20 MHz spectrum building blocks, and
- Allowing cellular companies to play in- and out-of region by relaxing overlap/attribution rules.

If you have any questions concerning this submission, please contact the undersigned.

Sincerely,

Randall S. Coleman

Attachment

Response to En Banc Meeting on PCS Issues

Submitted by
Cellular Telecommunications Industry Association
April 22, 1994

Response to En Banc Meeting on PCS Issues

Consensus:

- Don't delay, make best choices possible with dispatch
- PCS is a "broad family" of services -- more than just cellular

Summary:

Arguments for 30 MHz, 40 MHz, or 50 MHz blocks come down to:

- Give big block licensees a guarantee of success
- Limit competition to create that guarantee

Objections to 10 MHz and 20 MHz blocks are smokescreens -- interference, delay, investment expense -- for PCS "on the cheap" and for limiting competition

Response and Recommendation:

To achieve the PCS objectives -- to create competition, foster technological innovation, promote opportunities for diversity -- the Commission should:

- Use building blocks -- 10 MHz and 20 MHz
  - More spectrally efficient
  - More blocks = more licensees, and competition
  - Promotes innovation and sound engineering practice
- Allow cellular companies to play in- and out-of region, relaxing overlap/attribution rules to
  - Expand competition
  - Promote partnering
  - Exploit cellular efficiencies

The Claim - cellular has a headstart	**The Reality - there is no locked-in cellular advantage**
• Dr. Pepper observed that "one of the implications from what we're hearing is that once a cellular operator, it appears that your assumption is that that customer is locked in, that they cannot move or be moved to one of the other new service providers?" April 11 Transcript at p.75. • Ralph Haller asked what, if anything, the FCC can do to ensure that PCS will be an aggressive competitor to cellular, such that there won't be a cellular/PCS subscriber ratio of 2:1 in ten years. *Id.* at p.77. • Mark Lowenstein of Yankee Group agreed that there is "somewhat of a head start advantage for cellular providers," concurring with other respondents that an installed base, brand name, and existing systems provide a competitive advantage in the marketplace. *Id.* at pp.86-87, 102-103.	• Dr. Hausman of MIT observed that he did not think the head start issue is important, given "the market continues to grow at the rate of 35 percent a year or even 25 percent a year," and that "there is nothing to stop people from switching over from cellular." April 11 Transcript at pp.180, 184. Moreover, he studied the issue in 1991 and determined that "there was no remnant of the head start . . . . the block A people who came in later, different periods of time and different MSAs had not really been adversely effected." *Id.* at p.181. • Dr. Stan Besen of Charles River Associates also noted that the growth in the marketplace is matched by changes in service, and that discussing the supposed headstart of the wireless incumbents is comparable to evaluating the personal computer market in 1982, and concluding that a company like IBM possessed an insurmountable headstart. *Id.* at p.185.

	The Reality - there is no locked-in cellular advantage • In fact, non-wireline licensees have grown to equal and often exceed their wireline competitors in the marketplace. McCaw Cellular, the largest cellular licensee is, after all, a non-wireline company. Ten other non-wireline companies are among the top 25 cellular companies, with over 119 million pops, and approximately 2.5 million subscribers. And many nominal "wireline" companies -- such as Southwestern Bell Mobile -- elected to purchase and now flourish in non-wireline markets around the nation. *See* CTIA *The Wireless Marketbook, Spring 1994*, at p.52 et seq. • Moreover, there is no basis to conclude that the PCS industry -- which is projected to grow from zero customers to 17 million or 34 million, or more in the space of less than ten years -- is disadvantaged, and thus requires handicapping its competitors (and therefore the public) in order to survive. • Given the FCC's liberalization of the interexchange marketplace, and the results of deregulatory measures in other industries, it is reasonable for PCS to capture one third of the mobile marketplace within ten years of its founding. And just 10 years after divestiture, MCI is a robust company, with over $ 12 billion in annual revenues, and over 21 million presubscribed telephone lines (15 percent of the total, in June 1993). *See* Industry Analysis Division *Long Distance Market Shares: Fourth Quarter, 1993*, at p.11, Table 4.

	The Reality - there is no locked-in cellular advantage • Furthermore, the history of the telephone industry itself shows the phenomenal growth which is possible. In 1894, at the time the basic Bell patents expired, the Bell companies had 270,381 telephone stations, and were growing at 6 percent a year. Over the next decade, the Bell companies' annual growth soared to 22 percent. *But by 1907, thirteen years later, independent companies had a market share of 48.8 percent.* *See* U.S. v. AT&T, Civil Action No. 74-1698, *Plaintiff's Third Statement of Contentions and Proof*, Vol. II, pp.1788-89, dated January 10, 1980.) • Dr. Besen also offered the correct cautionary note when he observed the "considerable uncertainty" which accompanies surveys and forecasts about future behavior and market conditions. April 11 Transcript at pp.191-92. The Commission should acknowledge that the future is not, and cannot be, knowable -- and it should not try to shape that future according to a single, and singular, vision of what services may be offered in the marketplace. It should adopt a flexible regime which permits entry, aggregation and disaggregation, and allows aspiring providers to test their products and plans in the marketplace, and not the hearing room.

	The Reality - there is no locked-in cellular advantage • The fact of the matter is that cellular customers "churn" at annual rates of 24 percent, with 8.4 percent of cellular customers switching providers, and another 15.6 percent of cellular customers dropping cellular service altogether. *See* EMCI *U.S. Cellular Marketplace, 1993*, at pp.34-35. • Cellular service is not a necessity. The installed base of 16 million cellular subscribers is the result of a commitment by the industry, and investment in infrastructure to deliver a service customers value. **Similar competitive advantages are shared by cable companies and interexchange carriers like, for example, Time Warner and MCI, the second largest cable and interexchange companies, with 7.5 and 21.2 million customers respectively**. *See NCTA Cable Television Developments, June 1993*, at p.14-A, and FCC Industry Analysis Division report *Long Distance Market Shares: Fourth Quarter, 1993*, at p.11, Table 4. • Because cellular carriers commonly package equipment with the sale of cellular service cellular customers typically have not made an investment in CPE and therefore have no commitment to cellular. See generally Report and Order, CC Docket No. 91-34, Bundling of Cellular CPE, 7 FCC Rcd. 4028 at para. 19 (rel. June 10, 1992).

The Claim - cellular has a headstart	**The Reality - there is no locked-in cellular advantage**
• Mark Lowenstein also observed that one factor in maintaining the cellular "headstart" is the relative price insensitivity of business subscribers. *Id.* at p. 86.	• In fact, subscribership in the cellular industry is increasingly among personal users, and in 1993 personal usage surpassed business usage for the first time, 52 percent to 48 percent, respectively. *See* EMCI *U.S. Cellular Marketplace, 1993*, at p.33

The Claim - cellular has a headstart and big blocks are the PCS solution	**The Reality - there is no locked-in cellular advantage**
• Dave Twyver, Northern Telecom, suggested that it is important "to make sure that the new entrants have a level playing field, have the spectrum, the 30 MHz, and the MTAs that they need to avoid the incumbent microwave users initially and build up the capacity to match the cellular operators . . . to overcome the starting advantage that the cellular operators have." April 11 Transcript at pp. 102-03.	• The reasoning behind the proposal to "level" the playing field by awarding MTA licenses with seven times the capacity of analog cellular systems (since PCS systems will be digital from the start) is fundamentally flawed. As Dr. Irwin Jacobs, CEO of Qualcomm, noted, "initially the main issue is not going to be using all your bandwidth. You're not going to have enough customers to do that. So you're going to have to clear out a small amount of bandwidth. You're probably not going to use even 10 MHz; you're going to use the smaller part to get started." April 12 Transcript at p.117.
• Mr. Twyver also observed that the "30 MHz MTAs are attractive enough to attract capital, are big enough to allow current technologies to get a start, and avoid the incumbent microwave users for a period of time, and are big enough to allow businesses to build out broad and diverse services in those MTAs." *Id.* at p.104	• The suggestion that the long-term sacrifice of a limited public resource, the radio spectrum, is the proper solution to an admittedly short-term problem is contrary to the Commission's policies and objectives favoring technological innovation and efficient use of the spectrum. As Dr. C.J. Waylan, of GTE Personal Communications Services, observed: "30 MHz, in our opinion, is very generous. In fact, 30 MHz is so generous it may encourage some license winners to deploy spectrally inefficient technologies." April 11 Transcript at p.54.
• Dan Kelley of Hatfield Associates noted that he had heard "from people who are worried about the spectrum clearing problems in some of the existing bands that . . . you might get service to people faster and more ultimate competition sooner with a smaller number of larger allocations rather than a larger number of smaller allocations." *Id.* at pp.154-55.	

The Claim - cellular has a headstart and big blocks are the PCS solution	**The Reality - there is no locked-in cellular advantage**
• An unidentified speaker indicated that he had heard that it was not possible to be "a viable competitor with cellular or provide a viable wireless loop technology with 10 MHz allocation" but that with 30 MHz blocks "you are going to have a smaller number of total licensees, but you might have more effective competitors when you are all done at the end of the day." April 11 Transcript at pp.156-57.	• Dr. Irwin Jacobs of Qualcomm noted that a 20 MHz allocation can provide "more than eight times the capacity of a current cellular system. Similarly, a 10 MHz allocation will support more than four times the capacity of an existing cellular system." April 12 Transcript at p.43. And he concluded that he believes that "a PCS licensee could use any of the proposed block sizes -- 10, 20, 30 or even 40 MHz -- to provide a viable PCS service." *Id.*
• Lex Felker of Time Warner Telecommunications (TWT) argued for allocations of at least 40 MHz, and MTA-sized geographic markets. April 12 Transcript at pp.17-18. These arguments were predicated on a need to accommodate existing microwave incumbents, move quickly to market, and to lower the number the cell sites and thereby reduce the capital investment required for the PCS infrastructure.	• As Charles Jackson observed, "if you find the case of the advocates for 40 MHz-wide PCS licenses persuasive, interesting but ultimately unproven, then you should put out a channel plan such as six 20 MHz licenses which permits consolidation" or operation on an unconsolidated basis. *Id.* at p.28. • In fact, large PCS blocks will permanently limit competition in PCS, and use an admittedly short-term problem (which companies like American Personal Communications and Cox Enterprises are working around, and which the Commission's relocation requirements will resolve) to justify the long-term sacrifice of a limited public resource, the spectrum.

The Claim - cellular has a headstart and big blocks are the PCS solution	**The Reality - there is no locked-in cellular advantage** • In fact, the various projections which insist upon larger blocks as essential for service viability reflect presumptions about the marketplace at best -- and they may be as far removed from reality as the picturephone was in the 1960s, millimeter waveguide in the 1970s, and satellite telephone transmission in the 1980s. The Commission should not squander a limited public resource. It should allow companies to seek to acquire such assets if they truly consider them essential to their business plans, but it should not adopt those business plans as the sole pattern upon which to design an entire industry. • It is ironic that the voices who are most critical of the competitiveness of the cellular industry a PCS duopoly as the competitive solution, complete with attempts to carve out a unique market via ever-larger geographic markets (from MTAs to the prospective nationwide licenses suggested by MCI and Time Warner Telecommunications), fix market share, and erect barriers to entry.

The Claim - Microwave Relocation Will Delay the Rollout of PCS	**The Reality - Microwave Relocation Will Not Unreasonably Delay the Rollout of PCS**
• Jeffrey Rosenblatt of Comsearch opined that "Having a broader bandwidth for initial allocation will require less movements in the preinitiation of service, which would allow you to get some spectrum to get started to provide service. And maybe you would have to relocate some but not all of your microwave paths, which you could probably do." April 12 Transcript at p.80.	• A variety of means can ensure that microwave relocation will not unreasonably delay the rollout of PCS. As Lex Felker, Time Warner Telecommunications, suggested: "One other issue in terms of things the Commission might want to think about to sort of assist in the microwave process, beyond those things you've already done is to consider the possibility of relocating or coordinating on paper all of the links right now, or in short order, and so that they have a reservation at the 6-gig band that they can take advantage of in the future. Because if you try to sort of do these things piecemeal, the likelihood that you're going to optimally coordinate all these links is less than if you do it all at once." April 12 Transcript at p.82. • Limond Grindstaff, AirTouch Communications, also suggested that "when the issues come up about 40 megahertz, 20, megahertz and 10 megahertz, it's irrelevant. You need to move the microwave users out, and the FCC has taken steps to do that . . . . The last obstacle was the unlicensed band or the public safety users, and in my opinion those are probably the easiest people to move out because they could use the new equipment. From our discussions with them and our practical experience with them, they have approached us in San Francisco wanting to sell their links to us, and we keep telling them wait until we buy a license. . . ." *Id.* at p.86.

The Claim - Microwave Relocation Will Delay the Rollout of PCS	**The Reality - Microwave Relocation Will Not Unreasonably Delay the Rollout of PCS** • Charles Jackson of Strategic Policy Research also suggested that "Maybe there are things the Commission can do in its rules that will speed the process of agreement between the new PCS licensees and the microwave incumbent. "One idea that comes to mind is to set a ceiling on any excessive payment over the cost of relocation; a ceiling which would not come into effect until, say, 12 months have gone by. . . . [a] rule that said after 12 months the excess payment can only be 50 percent of the cost of the microwave system, it might focus the parties, particularly the parties -- the incumbent who might be -- who is reluctant to relocate since it's sort of a status quo situation and they might get more later. It might focus them on agreement in the short run." *Id.* at p.87. • "[O]n this question of the bandwidth, again, initially the main issue is not going to be using all your bandwidths. You're not going to have customers to do that. So you're going to have to clear out a small amount of bandwidth. You're probably not going to use even 10 megahertz; you're going to use a smaller part to get started." *Id. Accord,* Irwin Jacobs.

The Claim - Restrictions Foster Competition	**The Reality - Ownership Restrictions Are Bad Policy**
• Dan Kelley said that "promoting a competitive structure is not the same thing as using a merger guidelines analysis to prevent undue concentration. Your job is to promote competition not to prevent bad things from happening. And in the course of doing that you should provide opportunity for new entrants because that is going to bring the most competition to the market." *Id.* at p.224.	• There appear to be as many definitions of "competition" as there are projections of what PCS will be in the marketplace. However, merger guidelines analysis is a tool for observing what might constitute a threat *to competition, not* what is a threat *to specific competitors.* The policy which Mr. Kelley advocates in fact is not to the advantage of competition, but to specific PCS aspirants. Limiting entry, or foreclosing it, and adopting market structures which effectively create a policy deliberately advantaging a specific kind of player, to the disadvantage of all other players, does not hold out the promise of "innovation, investment, and efficient pricing." Companies subject to such advantages are freed from the competitive pressures which prompt such behavior. • Dr. Hausman notes that restricting eligibility "is the wrong foot to start off on in a market-based policy which this FCC is going to unless there are real fears that the cellular companies can actually exercise market power and hold prices above competitive level." *Id.* at p.219.

The Claim - Restrictions Foster Competition	**The Reality - Ownership Restrictions Are Bad Policy** • Daniel Trampush, of Ernst & Young, argued that "restrictions on ownership of cellular and PCS would be bad for customers in rural areas," since such restrictions would prevent joint operations which may reduce network costs. April 11 Transcript at p.44. • Dr. Jerry Hausman, MIT, criticized proposed restrictions as being at war with exploiting the economies of scope which have been identified with many providers -- from cable companies, to celcos and LECs -- and argued that the best way to achieve competitive benefits is to foster competitive entry. *Id.* at pp. 136-37. • Dr. Hausman noted that "nobody has argued, even tried to argue, that this is a natural monopoly situation where we have overwhelming economies of scale." *Id.* at p.150. Given that each of the potential entrants into the PCS marketplace (cable companies, interexchange carriers, cellular providers, local exchange carriers, and partnerships between and among them) possess differing efficiencies, preclusion of any one class of companies from being able to bid for PCS licenses threatens to impose an unnecessary handicap on the PCS marketplace.

The Claim - Aggregation is Contrary to Efficiency and Viability	**The Reality - Aggregation Is More Viable Than Blockbuster Allocations/Geography**
• Dr. Pepper asked the financial panel what sort of time delay they thought aggregation would produce, and what the consequences would be. • Ms. Nancy Peretsman of Salomon Brothers suggested that the better course of action would be to decide what the right size was, than to develop a process that "would expedite aggregation but allow for some seepage and all kinds of the cumbersome parts of transfers." April 11 Transcript at p.322.	• Dr. Besen, Charles River Associates, supported a flexible system in which "any of a wide variety of market structures is consistent with a relatively un-concentrated market for personal communications services" -- which the Commission by and large adopted -- and argued that the Commission should not try to identify a specific market structure as the "correct" one to produce competition in the PCS market. *Id.* at pp. 142-43. • Dr. Hausman, MIT, reasoned that the Commission should not worry about aggregation as a potential threat to the PCS market, and that the Commission should not be concerned about precisely how many competitors exist in the market "because so long as you have competition, [involving low cost providers] low costs are going to lead to low prices which benefit consumers and leads to greater output." *Id.* at p. 135-36.

The Claim - Aggregation is Contrary to Efficiency and Viability	**The Reality - Aggregation Is More Viable Than Blockbuster Allocations/Geography**
• Dan Kelley argued that "one of the reasons . . . that I thought a national license would be good, and one reason why I believe today it would be good to allow for a rapid aggregation up to national licenses is that is going to make it easier to get standards in place. I worry on the standards issue that if critical issues get referred to industry forums, those forums are going to be dominated by carriers who are in the market and have vested interest and therefore get bogged down." *Id.* at p.213.	• Dr. Besen suggested that the Commission might have an oversight role over the standard setting process, but that it should not itself try to establish standards -- especially given the "highly fluid nature of market demand and technology here." *Id.* at p.214. • Dr. Hausman also observed that he would be concerned about delay if the Commission attempted to enter into the standards business. *Id.* at pp.216-17. • Twyver of Northern Telecom observed that "I don't see any problem, technical problem at all, in accommodating any combination of 10s, and 20s, and 30s, and that type of thing." April 11 Transcript at p.111.

The Claim - Programming the Market - and Market Share - is Possible and Desirable	**The Reality - Engineering the Marketplace, and Market Share is Unnecessary**
• Mr. Donald Gips posed the question to the financial panelists of how many competitors was right for the marketplace.	• Herbert Wilkins expressed the belief that the size of the licenses and geographic areas should be reduced, and the number of license areas increased by two or three times in order to make them affordable. *Id.* at p.235.
• Ms. Peretsman suggested that the maximum is three, and that in some markets the right number of competitors is two, combined with the incumbents. Mr. Roberts agreed that the resulting four or five competitors was acceptable. *Id.* at pp.279-280.	• Regulation is a substitute for competition that seeks to replicate competitive results when there has been a market failure. There is no market failure and nothing to justify proposals to fix market share, establish barriers to entry, or otherwise gerrymander the PCS industry.
• While advocating significant engineering of the PCS marketplace, analysts such as Mr. Rissman and Ms. Peretsman avowed that they don't bring to the table "a professional sense of social engineering." *Id.* at p.334.	• In fact, these recommendations constitute engineering on behalf of one set of immediate entrants to the detriment of any subsequent entrants.

The Claim - Programming the Market - and Market Share - is Possible and Desirable	**The Reality - Engineering the Marketplace, and Market Share is Unnecessary**
	• Dr. Besen clearly indicated that he does not "think the right question is let's try to determine precisely what the optimal number or the irreducible minimum number is." *Id.* at p.161. Dr. Besen also noted the clear difficulty in attempting to evaluate the transaction costs involved in aggregation, in order to avoid "preventing certain transactions from being defeated because of the high costs of prearrangements." *Id.* at pp. 152-53, 198-99. • However, smaller blocks -- 10 MHz and 20 MHz blocks -- are better public policy than 30 MHz or 40 MHz blocks. If the Commission errs in establishing an ideal block size, it is easier for the market to correct the matter by aggregating up to some appropriate figure, than it is to try to correct an overly-large award. The market is not a remedy for such overly-generous grants, and government recapture of the resource is fraught with difficulty. It is wiser to adopt realistic building blocks, which are both viable in themselves and susceptible to aggregation, than it is to award 30 MHz or 40 MHz blocks in the name of creating viable competition, avoiding interference, and obtaining financing -- since the latter reasons shift and change, while the missed opportunity to wisely allocate spectrum is forever.

The Claim - That Cellular Entry will Foreclose Competition	**The Reality - There is No Justification for Presuming Cellular Will Restrain Competition**
• Dr. Pepper asked whether cellular's entry into the market (through acquiring spectrum) would "raise their rival's costs" or otherwise foreclose entry. April 11 Transcript at p.200.	• Dr. Hausman noted that cellular companies do not have power of price, lacking a vertical relationship controlling one of the inputs to PCS service provision -- since all providers will have access to spectrum. *Id.* at p.204 • Dr. Hausman also criticized the thesis that cellular companies could foreclose the market by acquiring spectrum, given the amounts which would remain available to other PCS providers. He concluded that "in terms of any anti-competitive outcome, I haven't heard a theory yet that, you know, has any basis in either economics or the historical facts of cellular." *Id.* at p.205.

The Claim - 10 MHz and 20 MHz Blocks Are Not Viable and Should Not Be Subjected to a Market Test	**The Reality - 10 MHz and 20 MHz Blocks Should be Tested for Viability in the Marketplace**
• Lex Felker of Time Warner Telecommunications concluded that the 10 MHz and 20 MHz blocks are "potentially unusable," and that "at a minimum we've got to have at least 30 MHz and hopefully 40 MHz assigned to them." April 12 Transcript at p.68.	• Mr. Twyver of Northern Telecom stated that 10 MHz blocks "are attractive for an innovative new player. They are attractive for low power local services, for wireless local loops, and for data access." *Id.* at p. 104. This is consistent with the position expressed elsewhere by Northern Telecom that 10 MHz blocks are viable, and that 20 MHz blocks are capable of providing both the above-referenced 10 MHz block services, and the high-speed, vehicular, and broadband data applications which some parties have argued require 30 MHz blocks. • As Dr. Waylan of GTE observed that 10 MHz licenses are valuable alone, and are the object of interest on the part of many cellular companies. *Id.* at pp.105-06. • Dr. Hausman of MIT was of the opinion that the 20 MHz blocks were the most viable. *Id.* at p.150. • Elliott Hamilton of EMCI observed that "Many 20 MHz BTA licenses appear to be viable as a stand-alone, high mobility, PCS business, particularly in the large urban markets." April 11 Transcript at p.49.

The Claim - Few Competitors and Large Allocations are Viable	**The Reality - Assumptions About the Marketplace Impact Conclusions about Viability**
• Daniel Kelley, of Hatfield Associates, argued that fewer and larger allocations are more viable. *Id.* at pp.154-55.	• The perceived threat to the viability to the smaller blocks (and smaller geographic areas) has its origins in the overpowering presence of the larger blocks and geographic markets.
• Mr. Jon Hulak, Senior Industry Analyst at BIS Strategies, observed that "we would expect that all the allocations would be filled in those types of markets [the top MTAs]. You go down into some of the smaller markets, I think it [the 20 MHz C block] could well be bypassed." *Id.* at p.114. However, he indicated that this was "not because it's not 30, it's because it's surrounded by so much else . . . . the larger players will go to the A and B blocks, [and] the cellular . . . companies will bid on the 10 MHz . . . . that leaves a very small community of interest for the C block." *Id.* at p.113.	• In fact, this is a circular and self-fulfilling prophecy. As has been noted before, Dr. Waylan and other experts have observed that smaller allocations are "substantially disadvantaged as compared to the 30 MHz MTAs." *Id.* at pp.105-06. • George Murray also observed that "the 10s and 20s are technically and economically feasible, but I think they're more economically and technically feasible if there are no 30s and they're all 20s and 10s." *Id.*

The Claim - Few Competitors and Large Allocations are Viable	**The Reality - Assumptions About the Marketplace Impact Conclusions about Viability** • The truth of the matter is that we cannot be sure what size blocks are best suited to the various business plans and technologies being developed by would-be PCS providers. Projections may be consistent with the assumptions an plans of the speakers, but that in no way captures the reality of the total marketplace. The Commission should continue its cautious and wise agnosticism, reflected in its broad definition of PCS, and not attempt to adopt a single vision of PCS and tailor policies adapted to pursuing that one vision. • Rather, to ensure compliance with the broad mandates of the Communications Act, the Commission should adopt a flexible policy which will foster broad participation, and permit aggregation of licenses like building blocks. • The Commission should permit any qualified party to pursue licensing in the PCS bands, subject to no unnecessary or unjustified restrictions, and should allow the marketplace to define PCS.