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FEDERAL COMMUNICATIONS COMMISSION
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Statement of
George E. Murray
to the
Personal Communications Services
Task Force

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Federal Communications Commission
Washington, D.C.

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I am a self-employed, African-American entrepreneur with a business and financial background. From 1979 through 1984, I served in government, first as a financial analyst in the U.S. Department of Commerce and then as the Acting Deputy Assistant Secretary of the Economic Development Administration of the Commerce Department. I then entered the private sector, and have been involved in a series of successful business ventures.

My introduction to the telecommunications industry came as a financial analyst in telecommunications matters for a non-profit institution. This background caused me to pursue communications licenses myself whenever opportunities presented themselves. As a result, I have come to hold substantial interests in multi-channel multipoint distribution service ("MMDS") licenses, and was an applicant for and became an interestholder in the third designated 900 MHz nationwide common carrier paging license. A company I owned controlled the Block A cellular license for the New London-Norwich, Connecticut market. I also have participated in varying degrees in cellular ventures in the Asheville, North Carolina, Benton Harbor, Michigan, Kalamazoo, Michigan and McAllen, Texas markets.

My active involvement and interest in wireless telecommunications has led to my substantial participation in the PCS proceedings. I filed detailed comments and reply comments in PP Docket No. 93-253 in which the Commission is seeking to establish procedures governing the use of competitive bidding techniques to issue PCS licenses. I filed my own petition for

reconsideration of the Commission's Second Report and Order in the wideband PCS proceeding (the "Wideband Order"), and have continued to participate by commenting on the petitions of others.

I. My Interest in the PCS Proceedings

The express purpose of my active participation in the Commission dockets affecting PCS has been to assist in the formulation of a regulatory structure for the allocation of wideband PCS licenses that will meet the Congressional mandate of establishing meaningful licensing opportunities for small businesses, minority-owned businesses, women-owned businesses and rural telephone companies (so-called "Designated Entities").

I am a practical businessman with real world experience in the difficulties faced by small, minority-owned businesses seeking to meet the financial requirements of capital intensive communications businesses. I am gratified that the PCS Task Force is interested in hearing from me, and urge the Commission to continue to keep in touch with representatives of Designated Entity groups as it considers changes to the PCS allocation.

I share the Commission's view that PCS represents a family of diverse services. The best way for the Commission to foster this beneficial diversity is to encourage and facilitate broad-based participation by a variety of service providers, and not to create an allocation that will result in giving the PCS spectrum to a small handful of huge existing telecommunications companies. I firmly believe that the adoption of a PCS

allocation scheme that will foster the participation of small businesses, minority-owned businesses, women-owned businesses and rural telephone companies is not just good social policy; it is good telecommunications policy. Diversity in ownership will foster diversity in the types of services that develop under the broad category of PCS.

I understand that the announced topics of today's panel are "PCS Spectrum and Technical Issues". I am not an engineer. I approach technical issues in the PCS arena as would any entrepreneur. I talk to engineers, equipment manufacturers and other telecommunications specialists in order to make informed business decisions regarding technology. My discussions to date with such telecommunications experts have convinced me that the Commission's initially proposed PCS allocation plan must undergo some fairly significant changes in order for a robust PCS market to emerge.

II. The Frequency Block Plan

The Wideband Order subdivides spectrum into a variety of bandwidths and geographic license areas apparently in the hope that this will foster diversity in the types of services that will develop in the marketplace and the composition of the participants. This approach will not work. Rather, the allocation in its current form will lead to the emergence of two predominant PCS providers with little if any meaningful participation by Designated Entities.

Rather than predetermining the market in this fashion, the Commission should adopt a building blocks approach to PCS licensing. All of the available wideband spectrum should be allocated in smaller uniformly sized blocks (10 MHz or 20 MHz) and on the basis of smaller, uniformly sized license areas (BTAs). The licensing rules should permit the aggregation of up to 40 MHz of spectrum by a single applicant, and unlimited geographic aggregation. This allocation should then be coupled with auction rules that will facilitate the aggregation process. The net result would be a flexible allocation scheme that would allow the marketplace to decide the optimal bandwidth and geographic territories rather than having these important variables dictated by the regulatory agency.

I share the concern expressed by Commissioner Barrett that the current allocation -- which provides for two 30 MHz MTA licenses in the lower band and relegates all other operators to smaller bandwidths, geographic areas, and, in some cases, technically inferior spectrum -- will cause the two 30 MHz MTA licensees to dominate the PCS marketplace. Experience in the cellular industry indicates that cellular carriers compete principally on the basis of coverage area, service quality and price. In all of these critical areas, a 30 MHz MTA licensee will have a significant inherent advantage over its 20 MHz and 10 MHz BTA competitors. In terms of coverage area, the relative size of an MTA to a BTA will enable the 30 MHz licensee to boast of a much greater coverage area. In terms of service quality,

the 30 MHz grantee will receive more immediately useable spectrum than will grantees of smaller spectrum blocks. This will enable the 30 MHz licensee to promptly initiate a higher quality service.

MTA licensees also will have an inherent advantage in terms of price. The adopted procedures regarding the relocation of incumbent microwave licensees from the newly allocated PCS band establish a substantial transition period during which incumbent licensees may stay put. In fact, incumbents can continue to operate for up to three years before being required to move at the new PCS licensees' cost. Recipients of smaller amounts of PCS spectrum will be at a competitive disadvantage to recipients of larger blocks since those in the former category will find it necessary to move incumbents more quickly in order to garner enough clear spectrum to provide a high quality service. As a result, they will be at the mercy of microwave incumbents who are seeking substantial payoffs to relocate early. The result will be increased costs, and corresponding upward pressure on the prices at which these licensees can offer PCS service. These comparative difficulties would be avoided if the Commission were to allocate all of the wideband PCS spectrum in uniform blocks.

Uniform building blocks still could result in ultimate channel assignments of varying bandwidths if some applicants pursue business plans which cause them to adopt spectrum aggregation strategies at the auctions. In that case, however,

the emergence of service providers with different amounts of spectrum would be the result of market forces and not regulatory decisionmaking. I believe that the marketplace provides a better mechanism for fine tuning an allocation of this nature than does Commission decisionmaking.

III. Geographic Service Areas

The selection of geographic service areas for PCS licensing purposes involves consideration of a variety of competing factors. The use of smaller license areas creates additional licensing opportunities, fosters diversity in the identity of licensees and may promote prompt construction by creating manageable territories capable of being constructed by a single licensee in short order. On the other hand, larger license areas reduce the number of auctions that must be conducted, assure common ownership (and hence common technical standards) over a larger geographic area, and may facilitate system financing. In my view, the use of BTAs as the basic geographic territory strikes a reasonable balance between these competing considerations.

Using a mixture of MTA and BTA license areas creates potential competitive inequalities. Regardless of whether the benefits of larger service territories are real or only perceived, those given larger territories will enjoy advantages in marketing and financing.

BTAs also present a reasonable license area in view of the cellular experience. There are few cellular systems that are

being operated on a stand-alone MSA or RSA basis, which indicates that geographic demarcations of this size are too small. There are, however, numerous cellular systems that have not consolidated to the size of an MTA. This suggests that MTAs may, in some instances, be too large. Consequently, a BTA designation appears to strike a reasonable balance between these extremes.

Again, the ultimate objective should be to adopt a licensing plan that enables the basic licensing unit, in this case BTAs, to serve as a building block to create larger territories. This can be accomplished through an auction mechanism which enables adjoining geographic areas to be aggregated in a rational fashion.

IV. Other Technical Issues

Based upon conversations I have had to date with manufacturers and others knowledgeable about PCS technology issues, there appear to be a series of adjustments in the PCS allocation that would optimize this licensing scheme.

A. Cross-Band Issues

As a prospective applicant, I have had to compare the prospects of being licensed in the upper as compared to the lower portion of the wideband PCS spectrum. Though not an engineer, I have heard concerns about the upper portion of the band expressed by manufacturers and other knowledgeable sources that naturally concern me as a prospective operator.

I understand that there are technical characteristics of the upper band that make it somewhat less desirable from a

propagation viewpoint (though this is mitigated in part by increased reuse capabilities), and that there may be peculiarities to operations above 2 GHz that complicate equipment design. I also gather that most of the developmental work that has been done in the United States and overseas with respect to PCS services has focused on the lower rather than the upper portion of this band, meaning that equipment development in the higher band may be further behind. In the absence of a less stringent build-out standard and timetable with respect to the upper band, a licensee in this portion would be at greater risk.

Complications associated with developing equipment that will scan both the lower and upper portions of the band also are troubling. I assume that cross-band equipment is technically feasible. The issue, though, is the nature and extent of the penalty -- in terms of equipment cost, equipment size/design and equipment delivery dates -- that results from the need to develop cross-band units. The early enthusiasm over PCS services appears to be forming on the expectation of small, lightweight units capable of providing a ubiquitous service at a low cost. This promise may be compromised by a frequency band plan that requires costly and cumbersome technology to span multiple frequency bands.

The equation is complicated even further by the fact that some providers may wish to span not only the PCS spectrum but also the cellular spectrum. There are already dual-mode cellular units designed to provide both analog and digital

service. If we start considering adding PCS spectrum to these units, we could be talking about tri-mode or quadruple-mode units, with attendant penalties.

Ultimately, if there is a way to recast the PCS allocation so that all of the allocated spectrum for licensed PCS is contiguous and in the lower portion of the band, there would appear to be immediate benefits to service providers and customers alike. Based upon these practical considerations, I urge the Commission to consider the possible relocation of the 40 MHz of unlicensed PCS spectrum to the upper band so that licensed wideband PCS could receive an allocation of 120 MHz of contiguous spectrum between 1850 MHz and 1970 MHz.

B. Technical Standards

Two lessons may be learned from the cellular experience involving technical compatibility standards. First, the existence of a uniform technical standard that permits easy nationwide roaming is invaluable in promoting the acceptance and use of mobile services. The fact that cellular services have generally surpassed all early demand projections is, I believe, attributable in no small part to the fact that people know their units will work when they travel outside of their local service area.

Second, if the Commission leaves it to the industry to adopt its own technical standards, the prospect of a common standard emerging in the near term is unlikely. This is the lesson of the digital cellular standard experience.

As a prospective operator, I am very concerned about the technical standards issue. This is not an industry that will be dominated by a single manufacturer whose technical specifications will become a *de facto* standard. And, because different manufacturers will be developing PCS products off of different historical technology platforms, there is not likely to be prompt agreement on a common standard. Nevertheless, I recognize the potential for delay that would be occasioned by a government-imposed standard, and also recognize that the FCC may be reluctant to be the standard setting body in a dynamically changing industry of this nature.

Unfortunately, there is no obvious answer. For the reasons earlier stated, I do not favor a PCS license scheme that will result in the emergence of one or two dominant PCS licensees (who might have the market power to set a *de facto* standard within their region). Assuming, therefore, that there will be many who are interested in the standards setting process, I would urge the Commission to maintain an active interest in this issue, and to try to take steps to encourage the emergence in the industry of workable compatibility standards sooner rather than later.

C. Power Levels

Although it was not a topic raised in my initial petition for reconsideration of the Wideband Order, I was struck by the number of the petitioning parties who challenged the relatively low power limits for PCS stations, and proposed power

increases that would create greater parity with cellular operators. The Commission should be especially impressed by the number of technically sophisticated participants who advocated this change.

The Commission should take particular note of the fact that two major wireless system manufacturers have advocated increases in the power limits: Motorola and Northern Telecom. Ironically, these companies -- which are in the business of selling equipment -- could conceivably benefit from lower power limits which would require the installation of a greater number of transmitters to serve a particular area. Nevertheless, both have advocated increases in the PCS power limits to at least 1000 watts, presumably because of a *bona fide* concern regarding the economic and competitive viability of low-powered PCS stations. Considered in this light, the comments in support of higher power limits are entitled to substantial weight.

I also believe that increased power limits would assist in accomplishing the Commission objective of creating meaningful opportunities for Designated Entities. Smaller companies would be encouraged by higher power limits that would reduce PCS infrastructure costs and increase competitiveness with existing cellular systems.

V. Conclusion

Adoption of revisions to the PCS allocation plan in accordance with the foregoing comments will result in a flexible allocation that holds real promise for the development of a

vibrant PCS industry. However, these changes will not suffice to create meaningful licensing opportunities for Designated Entities unless the Commission also follows through with a full range of preferences for the benefit of those groups which have historically been under-represented in the management and control of telecommunications services.

With specific reference to wideband PCS, the Commission should adopt at a minimum the following preference mechanisms:

- At least two channel blocks representing in the aggregate no less than 30 MHz of spectrum should be set aside in the Commission's rules only for bidding by members of the preferred groups.
- Designated Entities bidding for non-set aside licenses should receive bidding discounts of 10% to 20%. If they bid in conjunction with others, this discount should be proportional to their share of investment in the enterprise.
- Designated Entities should receive preferred payment terms. They should pay 10% of the auction price within three months of winning the auction. The remaining 90% would be paid over time after a deferral period sufficient to allow construction to be completed and service to the public to commence. For example, 15% of the auction price could be due and payable each year for six years following the third year after the grant.
- Tax certificates should be available to encourage the transfer of PCS interests to Designated Entities.

The Commission also should encourage the formation of strategic alliances among and between Designated Entities and established telecommunications companies. Attribution and overlap rules must be carefully crafted to avoid creating disincentives to the partnering of established communications companies with Designated Entities. And, to the extent that the

Commission opts to adopt any eligibility restrictions or spectrum caps with respect to PCS, the Commission should seriously consider providing parties with relief from the restrictions or caps if they have formed a venture with a Designated Entity that provides the Designated Entity with meaningful participation.

I understand that the Commission would want a broad array of preferences of this nature to be coupled with safeguards to assure that the preferred parties were *bona fide* participants in the enterprise, and to monitor situations in which licenses initially accorded to qualifying Designated Entities were promptly "flipped" to non-qualifying applicants and the original participating Designated Entity was unjustly enriched in the process. However, the Commission must be very careful to assure that these "safeguards" do not hamstring the legitimate Designated Entity licensee so much as to impede efforts to finance the enterprise. The simple fact is that lenders will not be inclined to finance an enterprise that is saddled with draconian restrictions on the alienation of interests in the event that the business (or the industry) does not develop according to plan.

Although Designated Entities will be receiving some preferences, the fact remains that the PCS spectrum is still being bought at auction, which provides an inherent deterrent to speculative, insincere applicants. This being the case, safeguards against unjust enrichment can be narrowly crafted. For example, any assignment or transfer to a new licensee which

is not a Designated Entity within the first three years of the license term could give rise to an obligation to pay the government the balance due of the spectrum bid immediately. Additionally, a non-Designated Entity could be required to pay the difference, if any, between the amount initially bid by the Designated Entity and the "market" price based on the average of bids for non-Designated Entities. These structural safeguards would provide protections, while maintaining a broad array of necessary preferences for Designated Entity candidates.

By proceeding in these fashions, the Commission can satisfy the Congressional mandate of assuring that small businesses, minority-owned businesses, women-owned businesses and rural telephone companies are given a meaningful opportunity to participate with respect to this important spectrum resource.