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FEDERAL COMMUNICATIONS COMMISSION
 PRESENTS EN BANC MEETING
 ON PCS ISSUES
 TUESDAY, APRIL 12, 1994



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9 MR. LIMOND GRINDSTAFF, Airtouch Communications

10 MR. ALEX D. FELKER, Time Warner

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12 DR. CHARLES L. JACKSON, Strategic Policy Research

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21 P-R-O-C-E-E-D-I-N-G-S

22

23 MR. HALLER: Good morning. I'm glad to see
24 that we have a packed house again today because I
25 think we're going to have a better session this
26 morning. It's going to be at least as interesting

1 as yesterday's and perhaps, in some respects, more
2 interesting.

3 Today's panel is primarily a technical
4 inspector panel, and we have a number of experts
5 in those areas here.

6 Today each panelist will be given seven
7 minutes to make a presentation and then we will
8 have a discussion. We will also be taking a break
9 somewhere around 10:30 so that we won't have to
10 sit here three hours without moving.

11 Once again, these round-table discussions
12 are being held by the Commission's PCS Task Force,
13 and our goal is to move the reconsideration of the
14 wideband PCS item along as quickly as possible.
15 And we're holding these round-table discussions so
16 we can get the experts together, hopefully get
17 some lively debate. We certainly did yesterday.
18 Hopefully we'll get more lively debate today among
19 the experts.

20 And so with that I'm going to go ahead and
21 turn the panel over to Dr. Tom Stanley, who will
22 be the moderator of today's session. Tom?

1 MR. STANLEY: Thank you very much, Ralph.
2 By way of introduction, let me say a little bit
3 about where we come from in this area.

4 Late in the 1970s and 1980s, cellular came
5 forth after a decade of deliberation, mostly
6 wrangling. The FCC at the time allocated a
7 limited amount of spectrum to 40 megahertz and the
8 800 megahertz reserved to what was viewed at the
9 time as largely a vehicular service. More
10 spectrum was left in reserve or allocated to other
11 services than was actually allocated to cellular.

12 The spectrum was equally divided into 20
13 megahertz to each of two providers as a duopoly
14 with a set aside for the wireline carrier. This
15 was supplemented to 25 megahertz in the mid '80s.
16 Initially the Commission created over 700 cellular
17 service areas, originally based on metropolitan
18 areas, and actually mandated a detailed technical
19 standard developed by industry along fairly stable
20 workable lines. Cordless telephones, personal
21 computers were virtually nonexistent, certainly as
22 they are viewed today.

1 Last fall in a very different era the
2 Commission developed its decisions on the new
3 Personal Communication Services after a little
4 over three years of deliberations. The Commission
5 allocated 160 megahertz at 2 gigahertz with very
6 little left in reserve. This is in contrast to
7 the spectrum for cellular which was largely --
8 which was almost exclusively vacant; the spectrum
9 at 2 gigahertz was very much occupied with voice
10 technology efficiencies ranging from
11 conservatively three times to optimally ten or
12 better times the existing cellular; voice
13 efficiencies blocks of 10, 20 and 30 megahertz
14 were allocated to a service that was not just
15 voice but was largely voice driven.

16 The division was one of a large variety --
17 a variety of large and small players, especially
18 new entrepreneurs and special consideration was to
19 be given to small businesses, rural telephone
20 companies, women- and minority-owned businesses.
21 The Commission even made room for cellular and
22 local exchange carrier interests. A half a

1 spectrum was identified in large major trading
2 areas, half of it in basic trading areas.

3 In addition with the auction process,
4 tailored, larger service areas, perhaps even
5 nationwide, could be achieved. Although the
6 Commission encouraged interoperability and
7 roaming, standards were largely left to the
8 community to develop.

9 In stark contrast to prior approaches, a
10 large 40 megahertz block was identified for
11 devices that required no licensing, for voice-like
12 and computerlike devices generally to be used
13 directly by the people at large.

14 Today the Commission is reviewing its
15 decisions on reconsideration and in attempt an
16 expeditious a manner as possible to get the best
17 decision to get personal communications moving.

18 Now yesterday we heard of what I'll call
19 upward projections of demand for personal
20 communications and varyingly optimistic and
21 pessimistic recounts from economists and financial
22 experts. Today the focus is on the technology and

1 the spectrum issues.

2 To help us with our deliberations, we have
3 asked a panel of nine experts to, I guess, give us
4 their thoughts in this area. And let me introduce
5 them and then ask them to begin their comments.

6 First, Mr. Limond Grindstaff, who is the
7 executive director for PCS Technology, Airtouch
8 Communications; Mr. Alex Felker, Vice President of
9 Technology with Time Warner Telecommunications;
10 Mr. George Murray, an independent businessman who
11 has participated in the development of cellular,
12 MMDS and paging companies. We have Dr. Charles
13 Jackson, cofounder of the Strategic Policy
14 Research, Incorporated; Mr. John W. Battin, Senior
15 Vice President/General Manager of Personal
16 Communications, General Systems Section of
17 Motorola; Dr. Irwin Jacobs, founder, chairman and
18 CEO of Qualcomm; Dr. David Nagel, Senior Vice
19 President and General Manager of Apple Company;
20 and Sandy Abramson, President of UTAM and manager
21 of Wireless Regulatory and Standard Affairs AT&T;
22 and Mr. Jeffrey Rosenblatt, Vice President of

1 Wireless Communications Comsearch.

2 We'll start with Mr. Grindstaff.

3 MR. GRINDSTAFF: Good morning. It's a
4 pleasure to be here. My name is Larry Grindstaff
5 and I'm the executive director of PCS Technologies
6 for Airtouch Communications. I would like to
7 thank Dr. Stanley and members of the PCS Task
8 Force for allowing me to speak today.

9 Airtouch Communications was formerly known
10 as PacTel Corporation, a Pacific Telesis Company.
11 On April 1st, Pacific Telesis funded PacTel
12 Corporation off as an independent company to
13 Airtouch Communications.

14 Airtouch is one of the world's leading
15 wireless telecommunication companies with domestic
16 and international cellular and paging operations
17 to over 1.2 million cellular subscribers
18 worldwide. We're a leader in wireless
19 technologies and have designed, built and operated
20 both analog and digital networks around the
21 world.

22 And what's most important to realize is

1 that Airtouch Communications is a future PCS
2 operator. In the area of PCS activity, Airtouch
3 has been actively involved in the development of
4 PCS over the last four years. In 1989 we were
5 awarded the PCN license in the United Kingdom, and
6 in 1991 we received five experimental licenses
7 from the FCC to investigate and develop PCS
8 services.

9 With those five experimental licenses, over
10 the last three years we've done extensive research
11 in the development of PCS. We've conducted
12 scientific studies of PCS spectrum, including
13 propagation, spectrum usage with NTIA, cooperative
14 research agreements, and spectrum sharing and
15 testing and feasibility studies.

16 We've also conducted extensive PCS
17 technology trials in the areas of the consumer
18 PCS, in-building PCS and full-service PCS
19 technologies. Each of these areas require
20 different technologies and different network
21 architectures.

22 We've also conducted one of the country's

1 largest PCS marketing trials with over 1,500 PCS
2 subscribers who were recruited and allowed to
3 select and purchase different PCS services and use
4 them during trial. Some of these services ranged
5 from pedestrian services that were priced at a
6 little over \$8 a month and 10 cents a minute to
7 full cellular type of services including Advanced
8 Intelligent Network Services as personal memory.

9 What I heard yesterday on the panel was
10 that PCS seemed to be going towards a cellular
11 look alike. And I would like to make a point that
12 if a PCS provider looks to providing a cellular
13 type of service, that is not PCS; and I also
14 believe the operator will miss the opportunity
15 that PCS will provide.

16 There are few areas that we would like to
17 point out as the Commission develops the final
18 rules on PCS, and one of them is spectrum
19 allocations. We believe that the 1800 and 2100
20 megahertz spectrum band is well suited for PCS
21 services. We also believe that the 2100 megahertz
22 is viable for PCS services and strongly support

1 that.

2 We disagree with the Commission on the size
3 of the serving areas. We believe that the smaller
4 BTA serving areas will best serve PCS operators
5 and the FCC's objectives. The smaller -- or the
6 smaller BTA serving areas will provide a building
7 block approach and allow the market to consolidate
8 as required.

9 We also believe that the unlicensed
10 spectrum will allow innovation and is well located
11 in the 1800 megahertz spectrum frequency range.

12 In the area of technical standards, we
13 believe that PCS is a family of services that will
14 provide a range of services and applications. We
15 also believe that PCS standards will aid in the
16 development of PCS's technologies and services.
17 But we're realistic and believe and understand
18 that one technology's standards may not provide
19 the solution for all PCS services.

20 We strongly support the industries' efforts
21 that are currently driving the development of
22 multiple PCS standards. And we strongly recommend

1 that the FCC approach minimal technical
2 requirements for PCS licenses and/or standard
3 bodies. Some of these minimal technical
4 requirements could be just the mere fact that
5 emergency services, roaming capabilities and that
6 interference between PCS systems would not be
7 tolerated.

8 There are a few technical issues that I
9 would like to point out. One is that the
10 inneroperability of PCS services will require some
11 type of technical standard. And we also would
12 like to raise the issue of the base station power
13 to the Commission and propose that PCS base
14 station power should be increased to allow PCS
15 operators greater flexibility in providing
16 services and take advantage of new future PCS
17 technologies.

18 We also feel that PCS operators will
19 require clean spectrums to become fully
20 operational and require that microwave users be
21 relocated. And we also applaud in Commission's
22 efforts in putting deadlines on the relocation of

1 PCS microwave users.

2 And finally, we believe the 1800 megahertz
3 licensed band is well placed and will provide
4 easier interoperability with licensed PCS bands
5 and will allow a new innovation for PCS Services
6 in the future.

7 From our studies, we've done extensive
8 trials in PCS services and looked at PCS, I feel
9 that Airtouch Communications has probably done
10 more in the area, if not as much as anybody else
11 in the area of PCS, in trying to understand what
12 PCS is.

13 PCS is not just another wireless service
14 and is focused directly on cellular type of
15 services, but PCS would be, from the customer's
16 point of view, the intergradation of all
17 telecommunications systems both wireline and
18 wireless.

19 I thank you for your attention. I look
20 forward to the question/answer period.

21 MR. STANLEY: Thank you very much.

22 Mr. Felker?

1 MR. FELKER: Good morning. I'm with Time
2 Warner Telecommunication, which is a division of
3 Time Warner Entertainment, the world's largest
4 media company. My division was established in
5 1991, to among other things, pursue various
6 wireless telecommunications ventures.

7 Time Warner has been a significant
8 participant in the FCC's development of PCS.
9 Besides being an active commentator in the various
10 regulatory proceedings, the company has engaged in
11 a continuing program of experimentation and
12 research into PCS technology and applications,
13 with particular attention to means by which
14 wireless and cable television networks can be
15 shared efficiently and economically.

16 Time Warner foresees PCS as a fully
17 integrated communications platform that will spawn
18 a wide range of new wireless mobile and fixed
19 telecommunications offerings, to be affordable to
20 average Americans and bring needed competition to
21 cellular and wireline operators.

22 While PCS operators initially will focus on

1 voice applications, Time Warner anticipates that
2 within a relatively short period of time the
3 digital friendly nature of the new PCS networks
4 will lead to the introduction of an array of
5 un-tethered and data and imaging applications
6 which consumers and businesses will soon find
7 indispensable.

8 New PCS operators will find themselves in a
9 very competitive environment, however. In
10 addition to the rivalry they will face from other
11 new entrants, PCS operators will also be matched
12 against the two incumbent cellular operators and,
13 in many areas, at least one existing digital SMR
14 operator. To be successful, the new licensees
15 must operate and price efficiently and develop new
16 services and new applications; traits that will
17 obviously benefit consumers.

18 But efficiency and creativity will be
19 useless without a regulatory regime which
20 encourages strong new entry, facilitates early
21 deployment and promotes the development of network
22 infrastructure which minimizes consumer prices and

1 maximizes quality.

2 An essential ingredient of an effective PCS
3 regulatory structure is the assignment of ample
4 spectrum to licensees. For several reasons I
5 consider a 40-megahertz assignment plan as
6 optimal. First, 40 meg assignments would
7 facilitate the prompt initiation of service
8 through spectrum sharing with existing microwave
9 users.

10 PCS licensees' success will be influenced
11 greatly by how quickly they initiate service. PCS
12 operators cannot afford the luxury of waiting
13 until microwave relocation is completed to launch
14 service. Consequently, to begin operation even
15 reasonably soon, PCS operators will have to share
16 the spectrum with incumbent microwave facilities.
17 Because microwave systems, at least in the lower
18 sub-bands, typically operate with 10 megahertz
19 channels, 40 megahertz PCS assignments would
20 provide operators the flexibility to use channels
21 adjacent to existing OFS systems.

22 In contrast, 20 megahertz assignments could

1 be rendered useless for PCS by a single microwave
2 limit. The 40 megahertz assignment plan also
3 would help compensate for the technical
4 differences which exist between 1800 megahertz and
5 2 gigahertz thereby helping to place the coverage,
6 capacity and cost of PCS systems on par with their
7 cellular competitors.

8 In addition by increasing the trucking
9 efficiency and lowering the number of cell sites
10 needed to meet capacity demands, 40 megahertz
11 assignments promote lower infrastructure costs and
12 narrower allotments.

13 And finally, over the longer term, wider
14 bandwidth assignments would simplify the
15 introduction of higher speed nonvoice services and
16 applications.

17 Because 40-meg assignments are essential to
18 the successful launch and operation of a large
19 scale effectively competitive PCS, Time Warner
20 believes that the FCC should assign these
21 bandwidths directly rather than relying on an
22 aggregation of the market. As compared to

1 licensing 40 megahertz directly, an aggregation
2 scheme could at worst result in an inefficient
3 resource allocation which could cripple the
4 service, and even under a best case scenario an
5 aggregation policy would propose substantial
6 transaction costs, delay the introduction of the
7 initiation of service and lower the proceeds of
8 the public auction.

9 A second crucial PCS regulatory parameter
10 is assignment area. As is evident from the trench
11 to consolidate cellular and SMR industries,
12 wireless markets encompass large geographic areas.
13 And this fact should be recognized by the FCC in
14 the assignment of PCS licenses.

15 Time Warner, along with many others,
16 believes that a licensed area should encompass at
17 least MTA-size regions.

18 The third essential ingredient of PCS
19 regulations concerns cellular eligibility. To
20 ensure that consumers enjoy the low prices and
21 innovation associated with competition, parties
22 with significant cellular interest should not be

1 permitted to hold PCS licenses in the same area.
2 In establishing a new Personal Communications
3 Service, the Commission holds a golden opportunity
4 to break the stranglehold the cellular industry
5 has over the mobile phone user and make wireless
6 service more affordable and more accessible to the
7 average American. The FCC should not squander the
8 opportunity to inject real competition into this
9 marketplace.

10 Based on economic projections that Time
11 Warner and others have conducted, time-to-market
12 is a key indicator of success for PCS. Because an
13 operator must realize the significant level of
14 penetration to achieve profitability, and inasmuch
15 as cellular penetration is growing at a phenomenal
16 rate, as we heard time and time again yesterday,
17 operators who initiate service too late may find
18 no market left to penetrate. Thus, even with wide
19 bandwidth large area assignments, if PCS operators
20 are unable to enter the market soon, they may find
21 it virtually impossible to build a successful
22 business.

1 Furthermore, based on internal Time Warner
2 estimates, every year that PCS licensing is
3 delayed reduces auction proceeds by at least
4 one billion dollars. Consequently, the viability
5 of the entire PCS industry, consumer benefits of
6 cellular competition, and the net proceeds of the
7 PCS auction are all contingent upon expeditious
8 licensing.

9 Thank you.

10 MR. STANLEY: Thank you very much.

11 MR. HALLER: Let me -- I should have done
12 this earlier on. I think most of the panelists
13 were here yesterday and so I didn't explain the
14 light system that we have, and let me do that for
15 any of you who don't know.

16 The rule, I think, is six minutes. The red
17 light comes on at seven minutes and also you'll
18 hear a bell ring. If that happens, you'll be
19 allowed to finish the thought that you have at
20 that point and then we'll move on to the next
21 panelist.

22 So for the few that weren't here yesterday,

1 I thought I should go ahead and explain that.

2 MR. STANLEY: Thank you. Mr. Murray?

3 MR. MURRAY: Good morning. My name is
4 George Murray, and I would like to thank you,
5 Dr. Stanley, and the FCC for inviting me to
6 participate on this panel.

7 I submitted a prepared text which addresses
8 several issues with regards to the technical
9 aspects, but I would like to say that I am not an
10 engineer at all. I'm on this panel but I am not
11 an engineer. I'm a businessman and I have
12 utilized engineers as one would utilize lawyers,
13 and et cetera.

14 MR. STANLEY: That sounds pretty
15 devastating.

16 MR. MURRAY: But, you know, I saw some of
17 the other panels but what I did not see was some
18 other small businesses and minorities
19 participating on some of the other panels.

20 Those people who I believe to be the real
21 risk takers are the people who put their
22 children's college tuition on the line, mortgage

1 their home in order to take advantage of or
2 participate in some of this new exciting
3 technology.

4 But I think it's important to hear from a
5 minority businessman who has owned and currently
6 owns communications property.

7 I have talked to several women-owned firms
8 and other minority-owned firms, and I believe that
9 my comments will fairly represent their and my
10 views.

11 As a businessman, I know that there is a
12 certain amount of risk in all ventures. There
13 will be risks and hopefully a chance for a success
14 in the PCS, but I want to make sure that the
15 process that brings this risk and possible success
16 together encourages and facilitates broad-based
17 participation. That depends on whether the FCC
18 carries out the Congressional mandate to
19 incorporate minorities and small businesses into
20 the process. If it does, then we can look to the
21 spectrum allocation and see if one can operate a
22 successful business given a 10- or a 20-megahertz

1 license. My answer to that question is yes. But
2 can I operate it better under conditions that are
3 more competitive; and the answer to that question
4 is a resounding yes.

5 So how can minorities best be incorporated
6 into this process to achieve better and more
7 profitable conditions? The best way is to
8 establish a more competitive environment. And I
9 share the concern by Commissioner Barrett
10 regarding the 30 MTAs dominating the marketplace.

11 My first suggestion would be to eliminate
12 the 30 megahertz MTAs and create three 20s. I
13 think that that would definitely add to the
14 building-block approach.

15 I believe that the experience in the
16 cellular industry indicates that cellular carriers
17 compete principally on the basis of average --
18 coverage area, service quality and price. In all
19 of these critical areas, a 30 megahertz MTA
20 license allows significant inherent advantage over
21 its 20 and 10 megahertz BTA competitors.

22 And also there is a problem on the price

1 issue of how much it will cost a minority firm or
2 small business to clear the microwave interference
3 problems since if it's cleared early in the
4 process, I'm sure that the incumbent microwave
5 person will certainly ask a much higher price to
6 get out early rather than later.

7 I also believe that the FCC must keep the
8 designated entities, and also I believe that you
9 must maintain to set aside for bidding by minority
10 and women on the firms of no less than
11 30 megahertz of spectrum. If the set asides are
12 in jeopardy, I urge the FCC to hold meetings with
13 minority- and women-owned firms to discuss any
14 alternatives that might arise.

15 The Commission should remember that radio
16 spectrum is a public resource and should not be
17 divided in a manner that suddenly or
18 systematically excludes others, especially
19 minorities.

20 Also I believe we must have a preferred
21 payment plan on the bids. 10 percent of the
22 auction price in three months, the remainder over

1 time allowing for construction. I think the
2 powers should be increased to 1,000 watts, and
3 that there be some consideration for the
4 relocation of the 40 megahertz unlicensed
5 PCS spectrum to the upper band.

6 With respect to the financing, I believe
7 that all the minority- and women-owned firms and
8 small businesses would want to make every effort
9 to maintain control over their business. I think
10 it would be extremely difficult. I think there
11 should be some flexibility given to the equity
12 ownership structure. When you go to the
13 marketplace for long-term financing, I think that
14 you will mostly be in a position -- the minority
15 firms would be in a position that they might have
16 to give up more than 50 percent initially of their
17 business, but I think they could get buy-back
18 opportunities to get back to the 51 percent
19 level.

20 I thank you for your time.

21 MR. STANLEY: Thank you very much,
22 Mr. Murray. Dr. Jackson?