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PACIFIC TELESIS
Group-Washington

July 15, 1996

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, NW, Room 222
Washington, DC 20554

Dear Mr. Caton:

Re: *ET Docket No. 96-102, RM-8648, RM-8653 - Amendment of the Commission's Rules to Provide for Unlicensed NII/SUPERNet Operations in the 5 GHz Frequency Range*

On behalf of Pacific Telesis Group, please find enclosed an original and six copies of its *"Comments"* in the above proceeding.

Please stamp and return the provided copy to confirm your receipt. Please contact me should you have any questions or require additional information concerning this matter.

Sincerely,

Enclosure

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

In the Matter of	
Amendment of the Commission's Rules to Provide for Unlicensed NII/SUPERNet Operations in the 5 GHz Frequency Range	ET Docket No. 96-102 RM-8648 RM-8653

COMMENTS OF PACIFIC TELESIS GROUP

Pacific Telesis Group submits these comments in response to the Notice of Proposed Rule Making ("NPRM") released May 6, 1996 in the above-captioned docket. The Commission proposes to make available 350 MHz of spectrum for use by new unlicensed equipment that would provide short-range high speed wireless digital communications on an unlicensed basis ("NII/SUPERNet devices").[1] These devices would support the creation of new wireless local area networks and facilitate wireless access to the National Information Infrastructure ("NII").

We support the Commission's proposal for NII/SUPERNet devices which can offer further opportunities for providing advanced telecommunications services to educational institutions, health care providers, libraries, businesses and other users. Among wireline carriers, Pacific Bell has led in promoting and funding educational access to technology. Two of our

[1] NPRM, para. 1.

most successful programs are Education First and California Research and Education Network ("CalREN") which we describe in Attachment A. Briefly summarized, through our various initiatives, we have wired over 1,500 schools and libraries in California, with another 700 underway. We plan to complete the wiring of 3,000 of the state's approximately 12,000 public and private schools, community colleges, and libraries by the end of 1996. Our goal is to get that number to 9,000 -- 100 percent of the qualified institutions in Pacific Bell territory -- by the year 2000. We have developed and tariffed an educational discount price in California for ISDN usage. The California Research and Education Network ("CalREN"), a $25 million trust fund to stimulate the development of new applications for high-speed data services, has already funded 25 projects devoted to education. As a result of CalREN, 385 educational institutions in California have been linked to the information superhighway.[2]

Through these activities, we have demonstrated our commitment to providing advanced telecommunication service opportunities to educational institutions. The Commission's efforts to promote an unlicensed NII/SUPERNet device and spectrum is consistent with the public interest in that a new category of unlicensed equipment and suitable spectrum can promote universal access to advanced telecommunication services by our educational institutions.[3]

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[2] Pacific Bell was also one of the sponsors of NetDay 96, in which we donated over 1,000 kits to facilitate wiring and hookups to schools throughout California. Over 1,200 employees of Pacific Bell participated in this event. Finally, we donated $600,000 to the California-based Detwiler Foundation "Computers For Schools" program that collects, refurbishes, and distributes donated computers to California classrooms.

[3] The advantages of an unlicensed device are substantial. The potentially lower cost of this device can result in wider affordability and easier deployment than wired systems. This could ultimately lead to opportunities for encouraging greater diversity of information; stimulating manufacturing opportunities; creating jobs; and fostering economic growth.

However, the Commission's proposal to allocate 350 MHz of spectrum is excessive. That amount of spectrum should not be committed to a service with unproven technology and untested market acceptance. Such a large allocation is unwarranted when compared with the amount allocated for unlicensed PCS services and for other unlicensed services. The unlicensed PCS allocation is currently 20 MHz (at 1910-1930 MHz) for asynchronous or data devices and 10 MHz (at 2390-2400 MHz) for isochronous or voice devices. Unlicensed Industrial, Scientific and Medical (ISM) bands, also have smaller allocations -- 26 MHz (at 902-928 MHz), 83.5 MHz (at 2.4-2.4835 GHz), and 125 MHz (at 5.725-5.85 GHz). A smaller initial allotment (for example, 100 MHz) would be sufficient to permit the development of the technology and market. When proven, additional spectrum could be allocated as needed.

In the meantime, we agree with the Commission's technical parameters for unlicensed NII/SUPERNet devices with a few exceptions. We support short range wireless digital unlicensed devices that would provide access to advanced data networks. Thus, antenna gain and height, and power parameters should be consistent with a low power, short range unlicensed service.

An unlicensed longer-range community network concept, however, raises significant concerns about both interference and regulatory parity. As the Commission notes, concerns have been raised that links longer than one kilometer in length would have the potential to cause harmful interference.[4] We share this concern and strongly support the Commission's

[4] NPRM, para. 44.

proposal not to accommodate higher power longer range communications sought by WINForum and Apple.[5]

Raising power limits increases the possibility of the devices interfering with existing ISM unlicensed users in the 5.725 - 5.85 GHz band as well as interfering with FAA uses in the 5.15 GHz band. As an unlicensed Part 15 service, NII/SUPERNet devices will not be permitted to interfere with licensed users. Thus, the Commission should not establish power limits that are likely to result in interference. Similarly, EIRP should be limited to 100 Milliwatts which would be consistent with existing services. Allowing anyone to use unlimited EIRP will create a free-for-all and limit the number of potential users.

The Commission misdirects its focus in its inquiry on antenna limits. The objective of any regulation in this regard should be to prohibit interference by a Part 15 activity regardless of antenna height. The Commission should leave the mix of power and antenna height to the NII/SUPERNet proponents so long as it does not result in interference to other device users.

While Apple believes that interference issues can be addressed through rules that promote spectrum sharing such as listen-before-talk, we are not convinced. We believe that additional study is required in order to protect licensed users, particularly because of the potential impact on the public safety aspect of FAA operations.

With respect to regulation, the Commission requests comment on whether longer range community networks may be better accommodated on a licensed basis. If the Commission decides to support higher power, longer range data communications, particularly if the

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[5] Id., para. 47.

long-range network is interconnected to the public switched network, it should be provided on a licensed basis as the Commission suggests in its alternative regulatory structure.[6] To do otherwise would create an inequitable regulatory structure that would have an unlicensed service offering without the common carrier obligations of a licensee competing with a licensed service offering with common carrier obligations.[7] In some cases, the latter would be offered over spectrum for which the licensee paid large sums of money to use. There is no reasonable basis for creating such different regulatory treatments for potentially similar services.

CONCLUSION

Our active support of access to advanced telecommunications service by educational institutions is long standing and continuing. The NII/SUPERNet device holds promise to complement our efforts. As long as the Commission affirms its tentative proposal to limit NII/SUPERNet devices to low power, short range use, we support this rulemaking. However, we strongly object to higher-power, longer range use. If the Commission decides to support such use which revises the offering from a device to a service, it should

[6] Id., paras. 55-56.

[7] Unlicensed spectrum is typically associated with devices, not services, so the concept of providing a service in an unlicensed band appears contrary to current policy on unlicensed spectrum. Consequently, we also oppose Apple's proposal for a new Part 16 to treat unlicensed devices as a recognized radio service with interference protection. We applaud the Commission's decision to reject the establishment of a new Part 16.

require the same protections and obligations as would be required for any other long range commercial service, including licensing.

Respectfully submitted,

PACIFIC TELESIS GROUP

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Date: July 15, 1996

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Attachment A

PACIFIC BELL'S HISTORY OF PROMOTING EDUCATIONAL ACCESS TO ADVANCED SERVICES

In April 1994, Pacific Bell announced the Education First initiative, designed to provide access to advanced services for our public and private schools, libraries, and community colleges. Education First includes free installation of up to four ISDN lines at each school or library, plus inside wiring for up to two locations in each school, one year of free (intraLATA) usage[8] and one additional ISDN line (for a total of five lines) and associated inside wire to connect individual school sites with a mutually agreed to hub location (e.g., a district office). To date, we have wired over 1,500 schools and libraries in California, with another 700 underway. We plan to complete the wiring of 3,000 of the state's 12,000 schools and libraries by the end of 1996. Our goal is to get that number to 9,000 -- 100 percent of the qualified institutions in Pacific Bell territory -- by the year 2000.

The Education First Program waives installation and first year usage and Subscriber Line Charges ("SLC") charges. For service life after the first year, we have developed and tariffed an educational discount price in California. Our Knowledge Network ISDN rate provides for a flat price for local usage of the ISDN line after the free first year of service.

We also filed with the California Public Utilities Commission on July 8, 1996 to extend the deadline for schools and libraries to apply for the equipment and ISDN service to the

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[8] The FCC authorized a waiver of SLC charges on these lines for the first year. *Pacific Bell Petition for Interim Waiver of Part 69.104 to Offer ISDN-equipped Access Lines to California's Schools, Libraries and Community Colleges,* FCC 95-496, *Order,* December 13, 1995.

end of 1997. In addition, we want to enable schools to participate in Education First using technologies other than ISDN for connections, and are currently discussing various options with the staff of the CPUC.

In 1993, we created the California Research and Education Network ("CalREN"), a $25 million trust fund to stimulate the development of new applications for high-speed data services. Through a competitive selection process, CalREN awards grants for development of cross-industry applications in health care, education, government and commerce. CalREN has already funded 25 projects devoted to education; 385 educational institutions in California have become linked to the information superhighway as a result of CalREN.

In addition, we were one of the anchor sponsors of NetDay 96, in which we donated over 1,000 kits to facilitate wiring and hookups to schools throughout California. Over 1,200 employees of Pacific Bell participated in this event. On NetDay, March 9, 1996, over 2,000 schools were wired for access to the superhighway (including the high school in Concord, California that hosted President Clinton and Vice-President Gore).

Because we recognize that integrating technology into education reform is not simply a matter of installing wiring, we have urged other businesses to become involved in funding other aspects of the information superhighway in schools. For example, in 1994, we donated $600,000 to the California-based Detwiler Foundation "Computers For Schools" program that collects, refurbishes, and distributes donated computers to California classrooms. To date, more than 26,000 computers have been donated to the program and some 12,000 refurbished computers have been placed in schools.