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FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

AUG 14 1996

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

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

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REPLY COMMENTS OF AT&T CORP.

AT&T Corp. ("AT&T"), by its attorneys, hereby submits its reply comments on the Notice of Proposed Rulemaking in the above-captioned proceeding.^{1/} While AT&T supports the Commission's proposal to make available spectrum in the 5 GHz band for unlicensed NII/SUPERNet devices, it urges the Commission to reject proposals to allow such spectrum to be used for longer-range, higher-power operations on an unlicensed basis. The record in this proceeding demonstrates that unlicensed high-power devices have significant interference potential and would result in inefficient use of the spectrum. In addition, permitting parties to duplicate, on an unlicensed basis, services that are, or could be, provided by licensed CMRS operators would undermine the Commission's regulatory parity objectives and would jeopardize future spectrum auctions.

^{1/} Amendment of the Commission's Rules to Provide for Unlicensed NII/SUPERNet Operations in the 5 GHz Frequency Range, Notice of Proposed Rulemaking, ET Docket No. 96-102, RM-8648, RM-8653 (rel. May 6, 1996) ("Notice").

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I. Use of the 5 GHz Band for Unlicensed Low-Power, Short-Range Operations Would Serve the Public Interest

AT&T believes that allocating spectrum in the 5 GHz band for use by NII/SUPERNet devices would promote innovative service applications and the development of new technology. By permitting wireless interaction with the NII, such an allocation would introduce flexible, affordable services that would benefit schools, libraries and other public institutions. In addition, wireless NII connectivity would considerably facilitate the proliferation of direct home and office individual access to this remarkable public resource.^{2/}

A number of commenters point out ways in which a 5 GHz allocation for unlicensed devices will benefit the public interest. For example, the Educators (who represent state university systems and state and local agencies that provide telecommunications services to students) assert that 5 GHz operations would provide schools with an affordable, convenient option for distributing their communications services from classroom to classroom.^{3/} Short-

^{2/} The overwhelming majority of Internet users in its current embryonic pre-wireless stage obtain access through individual on-line services. The economic attractiveness of a wireless architecture could stimulate the growth of an infrastructure designed to serve the general public but which will, by its existence, benefit schools and other public institutions. It is also worthwhile to note that because of the very nature of the Internet as an information flow medium, the preponderance of its use by the general public may be expected to be educational. The Commission can assure the development of appropriate competition in higher power portions of Internet-associated wireless architectures by authorizing only licensed services to provide connectivity between the local unlicensed low-power webs and the long distance network.

^{3/} Joint Comments of Educators at 2. The Educators illustrate this problem by reference to a study commissioned by the San Diego County Superintendent of Schools. *Id.* That study concluded that, using currently available hardwire technology, the cost of wiring each elementary school would be at least \$20,000, and each high school would be approximately
(continued...)

range wireless technology, such as that proposed by the Commission, could be used for the provision of local networks without the large expense, technical difficulties, and enormous disruption associated with rewiring school buildings. There also are a plethora of potential commercial applications for low-power, unlicensed NII/SUPERNet operations. None of the commenters advocating unlicensed high-power operations, however, has explained why the need for such operations could not more appropriately be filled by a high-speed, high-capacity licensed service.

II. There Has Been No Showing That Unlicensed High-Power Operations In 5 GHz Band Are Necessary Or Appropriate

Numerous commenters demonstrate that there is a much increased potential for interference associated with permitting unlicensed high-power operations in the 5 GHz band. The Telecommunications Industry Association ("TIA"), for example, asserts that because transmissions at low frequencies will affect many users, the Commission must ensure that their operations are protected from harmful interference. To accomplish this, TIA suggests limiting peak EIRP to -10 dBW and limiting out-of-band spectral emissions.^{4/} Other parties concur that restricting peak EIRP to 0.1 watt is reasonable and that higher-power operations would cause significant interference to existing users, such as transportation systems and the

^{3/}(...continued)

\$120,000. Internal cable television distribution costs ranged from \$8000 at elementary schools to \$55,000 at high schools. Id. at 3.

^{4/} Comments of Fixed Point-to-Point Communications Section, Network Equipment Division of the Telecommunications Industry Association at 9-10 ("TIA Comments").

amateur radio service.^{5/} Pacific Telesis Group ("PacTel") notes that increased power limits raises the possibility of interference with existing ISM unlicensed users in the 5.725 - 5.85 GHz band and with FAA uses in the 5.15 GHz band. It proposes limiting EIRP to 100 Milliwatts to be consistent with existing services.^{6/} As the Commission suggested, rather than encouraging innovation, the lack of technical restraints on unlicensed 5 GHz operations is likely to result in chaos and an atmosphere in which opportunities for true innovation are restricted and its pursuit becomes unattractive.^{7/}

While some commenters urge the Commission to preclude high-power, long-range operations in the 5 GHz band altogether, AT&T believes that their concerns regarding interference would be greatly minimized if the Commission required such operations to be provided only on a licensed basis. Accordingly, AT&T proposes that the Commission limit the power of unlicensed NII/SUPERNet devices to -10 dBW and if it determines that higher-power operations are feasible in the 5 GHz band, permit them only on a licensed basis. As AT&T proposed in its initial comments, to the extent the Commission believes that

^{5/} See, e.g., Comments of the U.S. Department of Transportation, Federal Highway Administration at 2; Comments of the American Radio Relay League at 10; Comments of the Intelligent Transportation Society of America at 2.

^{6/} Comments of Pacific Telesis Group at 4 (July 15, 1996) ("PacTel Comments). Similarly, TIA and Harris Corporation argue that NII/SUPERNet devices must not be used for unlicensed point-to-point paths exceeding one kilometer in length. According to these parties, when short-range, high-speed digital communications are provided on an unlicensed basis, a multitude of operations can be supported on the 5 GHz spectrum. TIA Comments at 4-5; Comments of Harris Corporation-Farion Division at 3.

^{7/} As the Commission explained, because users might not derive a direct benefit from making socially beneficial investments in technology to use the spectrum in a more efficient manner, permitting unlicensed high-power operations could easily "translate to a situation where users have little or no incentive to make [such investments]." Notice at ¶ 55. The Commission called this condition a "tragedy of commons." Id.

previously allocated spectrum is insufficient to support long-range community network services, it should reserve the spectrum in the 5.725 - 5.875 GHz band (divided into 25 MHz paired channels) for point-to-multipoint and point-to-point backbone licensed services.^{8/}

Exclusive licensing not only will enhance spectrum efficiency, it is the only way to ensure regulatory parity among like services. AT&T agrees with PacTel that there is no reasonable basis for creating "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."^{9/}

In this regard, AT&T reiterates its support for the licensing of the 5 GHz spectrum through the use of competitive bidding. For the past two years, auctioning is the method by which the Commission has chosen to distribute licenses. Failure to do so in this case would devalue the spectrum already purchased by AT&T and other CMRS licensees as well as threaten the viability of future spectrum auctions.

^{8/} With regard to the establishment of technical standards for unlicensed operations in the 5 GHz band, there is broad support in the comments for allowing the industry to develop protocols and resolve spectrum efficiency issues. AT&T looks forward to working with other members of the industry toward this end.

^{9/} PacTel Comments at 5. AT&T also concurs with PacTel's opposition to the establishment of a new Part 16 for unlicensed devices. As PacTel asserts, unlicensed spectrum is typically associated with devices, not services, and thus creation of Part 16, wherein unlicensed devices would be a recognized radio service with interference protection appears contrary to current policy regarding unlicensed spectrum. *Id.* at n.7.

CONCLUSION

For the foregoing reasons, the Commission should allocate spectrum in the 5 GHz band for unlicensed low-power, short-range devices. To the extent the Commission chooses to permit higher-power operations, it should do so only on a licensed basis pursuant to competitive bidding.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Tanya T. Butler, hereby certify that on this 14th day of August, 1996, I caused a copy of the foregoing Reply Comments of AT&T Corp. to be sent by messenger to the following:

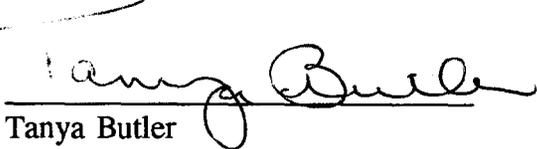
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