

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

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| In the Matter of |) | |
| |) | |
| Amendment of Parts 2 and 97 of the |) | |
| Commission's Rules to Create a Low |) | ET Docket No. 02-98 |
| Frequency allocation for the Amateur |) | RM-9404 |
| Radio Service |) | |
| |) | |
| Amendment of Parts 2 and 97 of the |) | |
| Commission's Rules Regarding an |) | RM-10209 |
| Allocation of a Band near 5 MHz for the |) | |
| Amateur Radio Service |) | |
| |) | |
| Amendment of Parts 2 and 97 of the |) | |
| Commission's Rules Concerning the |) | RM-9949 |
| Use of the 2400-2402 MHz Band by the |) | |
| Amateur and Amateur-Satellite Services |) | |

REPLY COMMENTS OF UPLC

The United PowerLine Council ("UPLC") hereby submits its Reply Comments on the *Notice of Proposed Rulemaking* in the above-captioned proceeding.¹

I. Introduction

UPLC is an alliance of electric utility companies and their technology partners who are developing powerline communications ("PLC") solutions to drive the development of Broadband PLC in North America. The UPLC is an

¹ Amendment of Parts 2 and 97 of the Commission's Rules to Create a Low Frequency allocation for the Amateur Radio Service, ET Docket No. 02-98, *Notice of Proposed Rulemaking*, FCC 02-136 (released May 15, 2002) (the "Notice", "NPRM").

independent organization operating within the auspices of the United Telecom Council, the national representative on communications matters for the nation's electric, gas, and water utilities, natural gas pipelines and other critical infrastructure industry ("CII") entities. The UPLC carries on the efforts of UTC's Power Line Telecommunications Forum (PLTF) that was created in 1998. The PLTF published two reports on Broadband PLC and participated in various FCC proceedings to advocate the electric utility industry interests in the technology. It also sponsored a study of the business opportunities for Broadband PowerLine in the U.S.

Broadband PLC has enormous potential economically and socially to provide broadband services via electric lines for applications such as high-speed Internet access, home networking and enhanced power distribution services such as automated meter reading, outage detection, and load management. Commercial products for home networking are already available, and testing of Broadband PLC on overhead and underground electric lines is underway. Still, the industry is nascent, the technology is still evolving and significant investment is necessary for its continued development and deployment.

The instant proceeding proposes to allocate the 5.250-5.400 MHz band to amateur operations on a secondary basis. Such an allocation could impede the development of Broadband PLC. Therefore, the UPLC is pleased to offer its reply comments in this proceeding.

II. The Commission should defer allocating the 5.250-5.400 MHz band until the impact on Broadband PLC can be assessed.

The UPLC commends the amateur interests and the Commission for considering the impact that the proposed allocation in the 5 MHz band would have on incumbent fixed and mobile allocations. This assessment, however, also needs to account for the potential impact on Broadband PLC products and services. Broadband PLC networks constitute carrier current systems under the Part 15 rules and their deployment and ability to operate in the affected band is in the public interest.²

In recognition of its importance to the economy and society, Congress has directed the FCC to ensure that broadband services are being deployed on a reasonable and timely fashion to all Americans.³ In three reports, the Commission has concluded that broadband deployment has been reasonable and timely, but it has expressed concern about mounting evidence of a digital divide between consumers that have access to broadband and those that do not.⁴ Since the release of the last report, the economic health of the

² See In the Matter of 1998 Biennial Review – Conducted Emissions Below 30 MHz for Equipment Regulated Under Part 15 and 18 of the Commission’s Rules, ET Docket No. 98-80, *Report and Order*, 2002 FCC LEXIS 2676, at ¶¶2 (May 30, 2002). See also 47 C.F.R. §15.5 (2000)(unlicensed operation authorized on a non-interference basis).

³ Section 706 of the Telecommunications Act of 1996, Pub. L. 104-104, 110 Stat. 56 (1996), reproduced in the notes under 47 U.S.C. § 157 (47 U.S.C. § 157 nt).

⁴ See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, CC Docket No. 98-146, *Report*, 14 FCC Rcd 2398, 2449 ¶¶¶ 100-01 (1999); Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All

telecommunications industry has declined precipitously and broadband deployment has slowed. Now is the time to encourage economic investment in broadband in order to spur its deployment.

Leaving aside the merits of the proposed allocation for amateur operations, the UPLC urges the Commission to defer action on it until such time as its impact on Broadband PLC can be fully assessed. A thorough assessment of the impact would permit the Commission to make a balanced decision of the interests of all the users – licensed and unlicensed – in the band. It could lead to an accommodation between amateur and PLC operations in the band, consistent with the Commission’s policy trend toward market-based solutions for spectrum management.⁵ Finally, it would preserve the interests of Broadband PLC at a critical time for the industry and the Commission’s policy objectives.

The UPLC appreciates the imposition that this would place on the plans for amateurs to operate in this band, but the inconvenience is unavoidable. While certain segments of the PLC industry worked with amateur interests to avoid interference in existing amateur allocations between 4 and 21 MHz, the PLC industry did not have an opportunity to work with the amateur interests on

Americans in a Reasonable and Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, CC Docket No. 98-146, *Second Report*, 15 FCC Rcd 20913, 20918 ¶ 8 (2000); Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, CC Docket No. 98-146, *Third Report*, 17 FCC Rcd. 2844 (2002).

⁵ Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, *Policy Statement*, 14 FCC Rcd 19,868, at ¶ 21 (1999).

compatibility in the proposed allocation.⁶ Nor would the delay be unreasonable. The 5 MHz petition was filed relatively recently, and a slight delay would be appropriate to ensure that the allocation would not impede the development of Broadband PLC.

III. The Commission should adopt technical and eligibility rules that minimize the impact on other operations if it does adopt the proposed 5 MHz allocation.

In the event that the Commission adopts its tentative conclusion to allocate the 5.250-5.400 MHz band for amateur operations on a secondary basis, the UPLC urges the Commission also to adopt its proposals with respect to technical and eligibility rules designed to minimize the impact on other operations.⁷ Specifically, the UPLC supports the adoption of a power limit of 1500 W PEP and restrictions on eligibility to amateur radio operators with an Amateur Extra Class license. In addition, the UPLC encourages the FCC to adopt antenna height limits and out-of-band emission requirements that will shore up these safeguards. These additional safeguards would be necessary to protect operations that are in close geographic or spectral proximity to the proposed amateur operations.

⁶ Comments of the HomePlug Powerline Alliance at 3 (filed Jul. 29, 2002) (noting that HomePlug took the extra measure of notching out all current amateur radio bands between 4 and 21 MHz in order to minimize radiation). See also Semi-annual Report of the American Radio Relay League Board of Directors Meeting, July 20-21, 2001, Report to the ARRL Board of Directors, RFI Task Group at <http://www.arrl.org/announce/reports-0107/rfi-task-group.html> (visited Aug. 8, 2002) (reporting that the ARRL has maintained contact with the HomePlug Alliance, and as a result the HomePlug specification includes protection for the ham bands).

⁷ *NPRM* at ¶ 39.

Amateur operations are frequency agile in that they follow the listen-before-transmit (“LBT”) protocol and select an appropriate frequency to avoid interfering with other operations. But, the LBT protocol may not adequately protect operations that amateurs cannot hear. The risk of this eventuality can be diminished by limiting the output power and by limiting eligibility to that class of operators that are most skilled at avoiding interference. The UPLC does not believe that EIRP limits would be effective, because amateur operators may not be capable of measuring and complying with EIRP limits.⁸

Even then, output power limits alone will not diminish the risk of interference, if they are not coupled with antenna height limits that would effectively limit the propagation of amateur operations to a defined range. Similarly, out-of-band emission limits are necessary to prevent interference to operations outside of the proposed allocation. The UPLC notes that equipment for amateur operations in the 5 MHz band does not currently exist and manufacturers would be able to more easily design equipment capable of meeting out-of-band emission limits now, before they go to mass market.

⁸ *Id.*

IV. CONCLUSION

The record from the proceeding reflects a substantial degree of interest among amateur operators in the 5 MHz allocation, but the UPLC is concerned that the proposed allocation would effectively nullify the use of this band for unlicensed PLC operations, thereby requiring PLC equipment makers to notch out the affected frequencies. That in turn would increase the cost and decrease the capability of broadband PLC equipment. The UPLC urges the FCC to exercise restraint in acting on the 5 MHz proposal, so that an adequate record can be built that considers the impact of all interests affected by the allocation, including Broadband PLC and the general public interest in its deployment. If the Commission adopts the proposal, it should restrict output power and eligibility as proposed in the *NPRM* and impose restrictions on antenna height and out-of-band emissions.

Respectfully submitted,

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August 13, 2002