

Before the
Federal Communications Commission
Washington, D.C.

In the Matter of) ET Docket No. 03-104
Inquiry Regarding Carrier Current Systems)
Including Broadband over Power Line Systems)

Reply Comments of James P. Miccolis, N2EY

Introduction

I am submitting these reply comments on the Commission's Notice of Inquiry (NOI) in ET Docket No. 03-104. I am an electrical engineer with BSEE and MSEE degrees from the University of Pennsylvania and Drexel University, respectively, and am employed full time in the design of control systems for the transportation industry. I am also coinventor of US Patent 5,358,202. I am also an amateur radio operator, first licensed by the Commission in 1967, and currently hold an Amateur Extra class license. My interest in amateur radio at an early age led me to pursue a career in electrical engineering.

Interference Concerns

The ARRL has demonstrated conclusively that the proposed access BPL systems cause high levels of harmful interference to nearby users of the radio spectrum, including, but not limited to, radio amateurs. The typical structure and pervasive nature of the electrical distribution system will result in this interference affecting amateurs in any areas served by the systems. Interference to distant users of the radio spectrum is also highly likely whenever propagation permits. Amateurs including myself have demonstrated the ability to communicate over great distances using low power and modest antennas when propagation is favorable. Interference from access BPL systems all over the country will be similarly propagated.

The attitude of the groups proposing BPL systems dismissed the possibility of harmful interference even before thorough measurements have been made. The proponents of these systems have even claimed that it should be the responsibility of the licensed user to prove and remedy any interference that should arise. Such a policy completely reverses the intent and purpose of Part 15 rules.

In Japan, access BPL has been banned due to interference concerns. Japanese electrical engineering is world-class by any measure, and the population density much greater than in the USA, yet they could not make the BPL systems viable from an interference standpoint.

Interference from Part 15 devices is often remedied by moving, shielding and/or filtering the device, replacing it with one with lower RF radiation, or simply turning it off. These options will not exist with the proposed BPL systems. The pervasiveness of electrical power distribution means that interference, if allowed to occur, will affect everyone over a wide area, whether they are users of the systems or not. Therefore, the acceptable levels of radiation from BPL systems should be far below that now authorized for Part 15 devices. Competing broadband technologies such as cable and DSL are not permitted to radiate harmful interference to licensed users, nor to exceed current Part 15 levels, and there is no reason to justify an exception for BPL systems. In fact, the current Part 15 levels are too high, as demonstrated by the ARRL tests, and should be lowered, not raised.

The recent Northeast power blackout, the worst in North American history, demonstrated that the reliability of the electrical power system needs to be improved, and that increased capital investment and modernization is sorely needed. President Bush has declared the existing systems to be antiquated and in need of improvement. Adding BPL access systems will do nothing to aid this situation.

Conclusion

While the potential of broadband technologies needs to be explored and new technologies encouraged, such exploration and deployment must not be allowed to interfere with the legitimate use of the RF spectrum by licensed radio services. The RF spectrum is a finite public resource, and it must not be polluted by unnecessary manmade interference.

Respectfully submitted

James P. Miccolis