

Comments on FCC Broadband Over Power Line (BPL) *Notice of Inquiry*

I am writing to express my serious concerns regarding any increase in the existing Part 15 limits for BPL technology.

As a registered professional engineer specializing in electrical power systems as well as a licensed Extra Class Amateur Radio Operator, I am extremely concerned about the impact of BPL-caused interference on existing licensed users of the radio spectrum.

BPL technology emits significant amounts of broadband radio frequency noise from 2 MHz to 80 MHz and poses a major interference threat to existing services. Many nations, such as Japan have already rejected the use of BPL because of this interference potential.

Studies by the American Radio Relay League (ARRL) and similar amateur radio organizations in other countries such as the United Kingdom show that increased BPL power levels for access systems will create serious interference to the amateur radio service.

The Amateur Radio service is a licensed and regulated service that provides a significant contribution to emergency communications capabilities in the United States. Amateur Radio Operators have provided invaluable service during natural disasters, fires, and terrorist acts. The events of September, 11, 2001 illustrate the vulnerability of conventional telephone, cellular telephone, and other communications infrastructure. By maintaining a parallel communications system with significant emergency power capability, Amateur Radio has repeatedly shown it can provide radio communications when no other service is available. The expansion of BPL and increased power levels pose a serious threat to this capability. Amateur Radio, unlike most licensed services, provides a valuable service that should be protected not destroyed.

I have worked with many electric utilities as a consulting engineer over the past thirty years. These organizations are dedicated and structured to provide reliable and affordable electric power, and they do this quite well. But they have little skill or expertise with equipment operating at radio frequency (RF). Electric power systems operating at 60 Hz bear little in common with the characteristics of high frequency radio circuits. I am extremely concerned that the potent interference risk of BPL will be exacerbated by lack of technical expertise, inadequate levels of budgeting for maintenance and the inevitable lower priority that a BPL system will be given within an operating electric utility. Even now, electrical power systems often create localized radio frequency interference due to faulty insulators, loose connections and other malfunctions. But these noise sources are localized and can be eliminated through proper maintenance. With BPL, this electrical noise covers a huge frequency spectrum and will be spread across entire neighborhoods.

BPL systems are already allowed under the existing Part 15 limits. Even at these lower power levels, BPL can cause significant interference with the Amateur Radio Service. Allowing higher power levels will greatly increase the interference potential.

The FCC is charged with protection of licensed services from undue interference and it has promised to provide this protection. In order to live up to this promise, BPL systems must be restricted and power levels must be maintained at existing Part 15 Levels or lower.

Respectfully,

David P. Castor, P.E., K7EL
Corvallis, OR