

FHH Telecom Law

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Power Users on Power Lines

*By: Mitchell Lazarus
703-812-0440
lazarus@fhhlaw.com*

Wires are wires, right? And all of us have wires coming into the house for the toaster and the TV. So instead of bothering with DSL and cable modems, why not just pipe in high-speed Internet over the power wiring?

There are lots of reasons, it turns out. House wiring was long thought to be inhospitable to data signals. Common appliances like hair dryers inject a lot of noise, electrically speaking. Power-company gadgets needed for electricity distribution get in the way of data. And just turning on a light or a ceiling fan can change the environment completely. But the biggest problem has always been that garbage-can shaped object hanging on the pole outside the house (or, in some neighborhoods, the big green box next to the curb). Called the local power distribution transformer, this essential item converts the 10,000 volts or so used to send power around the neighborhood down to the 220 and 110 volts favored by household appliances. To a high-speed data signal, the transformer looks like a brick wall. And bypassing the transformer with a data wire is frowned on, because that would connect the 10,000 volt distribution line on the street to the toaster in the kitchen. Which makes for very dark toast.

The last few years have seen the confluence of two major developments: the problem of getting data past the transformer has been solved; and a lot of people now want broadband at home. Broadband over power lines – BPL, as the FCC calls it – is on the way.

In the meantime, the FCC wants to tinker with its rules. The data-carrying signals on power lines operate at radio frequencies. Some of that signal leaks off, with at least a theoretical potential to interfere with radio-based services. The digital devices needed to couple data on and off the power lines likewise emit radio-frequency noise. The FCC wants to help BPL get started on a large scale, but also wants to make sure radio receivers both inside and outside the BPL-equipped home are not subject to untoward interference.

The FCC has issued a Notice of Inquiry that seeks public comment on a range of issues relating to BPL. These include not only appropriate limits for radio noise, but also techniques for measuring radio emissions from BPL, which can vary dramatically from one installation to another.

Months before comments are due, BPL opponents have already begun to line up. Some are spectrum users, particularly amateur radio operators, who fear interference to their services. And some may be current broadband providers, such as telephone and cable

companies, who might try to ensure that BPL is sufficiently hobbled by regulation to minimize any competitive impact.