

Public Service

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“It Seems to Us”

Imaginary Numbers

“One of the most frustrating aspects of dealing with the issue of radio interference from broadband over power line (BPL) technology has been the irrational boosterism of the federal government.”

Just as generations of bankers have known that it's a bad idea to lend money to people who can't pay it back, generations of electrical engineers have known that — unless you want it to radiate — it's a bad idea to put radio frequency energy on an unshielded, unbalanced conductor. Financial experts will be arguing for years about whether the federal government inadvertently contributed to the subprime mortgage crisis and whether it should have acted earlier to head off a credit meltdown, but at least the government wasn't blatantly cheerleading on behalf of unsound lending practices.

Unfortunately, the same cannot be said with respect to BPL. On the basis of wagonloads of wishful thinking and precious little else, the current Administration — through the Commerce Department's National Telecommunications and Information Administration (NTIA), the Federal Communications Commission (FCC) and even the Federal Energy Regulatory Commission — has devoted considerable effort to touting BPL as the “third wire” that would bring affordable broadband into American homes. Despite the rhetoric, it hasn't happened. According to the latest FCC figures — which come from reports that service providers are *required* to file — fewer than 5,000 broadband customers received service via BPL as of December 31, 2006.

Everyone makes mistakes. If today the Administration simply admitted that BPL has not lived up to its expectations and announced a shift in focus to other, more promising broadband technologies, we would be the first to applaud. An opportunity to do so came on January 31 with the release of the NTIA report *Networked Nation: Broadband in America 2007*. This report sets out to demonstrate that Administration policy has contributed to substantial achievement of the vision of universal, affordable access to broadband.

The report's Executive Summary notes that according to FCC data, the total number of fiber and power line connections grew by 789 percent over a three-year period but then states, “Fiber optic lines, however, appear to be almost entirely responsible for this expansion.” So much for BPL, one might think. However, the term “BPL” is mentioned *45 times* in the 60-page report. While the report acknowledges that “BPL has yet to make significant inroads in the broadband marketplace,” it goes on to claim that “it holds promise for the future.” A couple of sentences later, a description of the Manassas, Virginia BPL system is given — but you have to read the endnotes to learn that the May 2006 article from which the description is taken was entitled “Powerline Promises Broken on Broadband.” The NTIA report chose not to dwell on the fact that the article painted a dismal picture of BPL's future. (Speaking of Manassas, the BPL provider there recently announced that it has cut its office hours to just two hours per day.)

The inspiration for this month's title, “Imaginary Numbers,” is the following quotation from the NTIA's report:

Reliable BPL subscribership figures are difficult to find. The FCC's most recent data identify fewer than 5,000 BPL customers as of yearend 2006. That figure appears low, however. TIA [The

Telecommunications Industry Association] estimates 200,000 current BPL subscribers...

Five years of experience in dealing with BPL systems as a radio interference source has given the ARRL considerable insight into the BPL industry. Based on that experience the FCC's figure of fewer than 5,000 BPL customers is entirely credible, so we were curious where the “estimate” of 200,000 current BPL subscribers came from.

We contacted TIA and learned that the figure came from a market study prepared by a telecommunications research consultant, based on research conducted by a second firm. We contacted the second firm and asked how the figure was derived. They responded: “The 200,000 number for BPL subs did not come from [us]. In our US broadband forecast, we estimate about 231,000 broadband subscribers in the ‘other’ category besides DSL, cable, satellite. Other includes BPL, but is not solely BPL.”

We then contacted the consultant. They responded, “Our source for the BPL figures was [the second firm].” When that firm's denial was shared with them they responded, “It was our understanding that BPL was the principal component as it was the first item listed.”

In other words, **the figure of 200,000** — a figure cited by NTIA because they regarded the FCC figure as too low — **came out of thin air**. We immediately called this to the attention of the Acting Administrator of the NTIA and requested a correction. Two weeks later there has been no response.

Our quarrel is not with TIA, which was invited to comment but declined to do so. Their telecommunications market study was comprehensive and mentioned BPL only in passing; surely they neither intended nor expected that it would be cited as an authoritative source of BPL data. The fault we find is with the NTIA, for giving credibility to this fictitious figure. The NTIA compounded its error by citing yet another “forecast” of 400,000 BPL customers by the end of 2007 — a figure that is drawn from a year-old Web promotion for a \$3,000 “industry report.”

We would really like to know why the NTIA chose to dig around for sources of inflated BPL figures rather than to acknowledge the simple truth that the marketplace has opted for better solutions than BPL. What interest remains in BPL is largely in utility applications, not in consumer broadband service.

To be fair to the surviving BPL manufacturers, in closing we must note that they now generally acknowledge the potential severity of our interference problem and have made considerable progress in engineering their devices to avoid the amateur bands. We just wish that the Administration was as interested in addressing the interference problem as it is in cheerleading for a technology after the fans have left the stadium.



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