

The following is a set of reply comments from Michael D. Jones, amateur radio operator K9MDJ. to the comments submitted by the CURRENT TECHNOLOGIES, LLC. Regarding Broadband over Power Line technology

This is in reply to the comments filed by Current Technologies, LLC (henceforth referred to as CT) regarding the economic and technological aspects of BPL. In their filing CT says

*" Broadband over Power Line (BPL) will ultimately rank as one of the Commission's significant achievements, continuing its heritage as a technologically innovative regulator in promoting vital services such as cellular telephony, PCS services, direct broadcast satellite services, and the public Internet."*

With its potential for interference to numerous other devices and services, BPL can just as easily be the Commissions greatest debacle. All of the other technologies mentioned grew out of their own economic and technical merits, not at the expense of other services. The 2 to 80 MHz spectrum covered by BPL has numerous users, and is partially covered by international treaties and agreements, raising the specter of international sanctions by countries harmed by interference.

CT makes numerous statements about the economic feasibility of BPL, but the model they are using seems to favor the same metro areas that make DSL and CABLE broadband feasible. Basing a system on a transformer that serves 3 to 8 households totally discounts the norm in the rural areas, where there is a transformer at each household. Further, many times in rural areas the houses are far enough apart to require BPL repeaters to be installed for every 1 to 2 houses, making rural BPL as economically unfeasible as DSL and CABLE. CT gives no cost comparisons for equipping these areas.

CT states that BPL devices should be considered as point source emitters, and entirely discounts the transmission line as an antenna. CT also states that there is no aggregation of these point source emitters, once again totally discounting the effects of the transmission lines.

This is an integrated system, designed to put a wide range of RF frequencies into a multi-wavelength unshielded, unbalanced wire. When this RF energy is fed into a resonant length feeder line from the pole to the house, it will radiate just like the RF from my radio radiates from my resonant length wire antenna.

The frequencies used by BPL are particularly adapted to low power long distance communication. I have personally talked person to person over 9000 miles using 20 watts of power at 14mhz. Numerous Hams routinely communicate over hundreds of miles using 1 watt or less<sup>1</sup>. In fact, British BPL emissions have been detected as far away as Italy.

Further, the transmission lines also act as receiving antennas, what will happen when BPL modems get an unintended signal of much higher strength than the BPL signal? Licensed amateurs aren't the only ones operating, commercial and government short wave transmitters also operate around the country in these frequencies with much higher power, and the naturally occurring aurora can put many watts of RF energy into long spans of unshielded wire.

As to the aggregating effect of numerous transmitters, extensive experience by Hams operating at field day sites proves otherwise. There are also the BPL trials in Japan and Finland, both of which refused to allow BPL to be implemented due to radio interference. CT totally discounts these problems, yet shows no test data to verify their claims.

**Footnotes:**

1. According to Rich Arland, K7YHA (Now K7SZ), in *World Radio Magazine* (February 1990, Year 19, Issue 8, pp. 46-47) the long-distance low power record is held by KL7YU and W7BVV using one MicroWatt over a 1,650 mile Ten Meter path between Alaska and Oregon in 1970. This is the equivalent of 1.6 BILLION Miles per Watt.

Respectfully Submitted,

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