Comments regarding ET Docket No 04-37, BPL NPRM

In response to the proposed rule making regarding expansion of the use of commercial power lines for use as broadband internet access, I wish to express my strong objections to this proposal. As for my qualifications to comment, I have a degree in Electrical Engineering and worked for a number of years for an electrical distribution utility. I hold an Advanced class Amateur Radio license.

1. While intermittent and limited use of power lines for data communication have occurred in the past, they have been extremely limited and primarily used between power company installations and away from residences. Expansion to residential areas will deliver the interference potential to the same locations where Amateur, Races, and MARS stations usually operate and increase the amount of data and coverage many, many times over what has been done in the past.
2. The HF frequencies proposed for this service are all subject to long range propagation, which will raise the “noise floor” far beyond the immediate area where the BPL services are provided. While the signal levels are expected to be very low to comply with Part 15 rules, the accumulation of the source points will still increase, particularly as the service areas expand, and make communications with very low power stations very difficult if not impossible almost anywhere, even in areas not served by BPL. These QRP (low power) stations represent a significant portion of the Amateur Radio hobby and are often used by people hiking or camping away from other commercial services and for stations running on battery power or solar cells in times of emergencies.
3. Regardless of the language of the proposal that requires the BPL service to accept interference by licensed services or provide “filters” for certain frequencies, the plans to expand to a significant number of users will cause that concept to change in response to the shear number of “voters” on one side of the issue. Everyone recognizes the potential for conflict, but once this is commercialized we will have opened a Pandora’s Box of problems that will negate any compromises currently considered.
4. The services that will be interfered with by BPL are not limited to specific frequencies, but operate in a number of “bands” throughout the spectrum. BPL, itself, requires a large bandwidth to provide the speed and number of users it is designed to serve. Blocking interference by using filters on the BPL system will be extremely challenging, if not impossible, as common “notch filter” technology can not be used. When considering the various harmonics and frequency combinations possible between the various sources and receivers, this method appears to be doomed to failure and serves only as an attempt to placate the less informed.
5. Use of power lines to deliver broad band is ill conceived in any event. Those lines are not designed for such a function, are not shielded, and have lengths that approximate efficient antenna lengths often enough to expect that we will see significant radiation. Furthermore, clients of the BPL service will see intermittent and (to them) unexplained problems when nearby radio transmitters are in operation.
6. Appreciating the demands to expand broadband access to more people, other technologies that are designed for such a purpose should be more actively considered. Wireless access (WiFi) has become much more common and can cover large distances with appropriate antennas and access points. Use of fiber-optic systems run on power line poles systems has a capital expense to consider, but would be immune to interference and possible concerns over proximity to the power lines. These systems would be much more flexible and faster than the service possible over BPL. It should be noted that I live in a very rural area on a farm. I currently have broadband access via cable modem and could also choose to use satellite if I preferred. These represent services designed for communication and data, not power delivery.

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