

If the distribution of 1.7 - 80 MHz RF over conventional power lines (Access BPL) is allowed, interference absolutely will occur. The only questions are just how severe, what radio services can tolerate this interference, and how well BPL will tolerate the RF signals generated from licensed spectrum users.

Any expert in Radio Frequency (RF) transmission will verify that an unshielded wire carrying RF energy will radiate that energy into the surrounding space. The physical lengths of power lines make them efficient radiators (and receptors) of RF energy in the 1.7 - 80 MHz (HF) range.

BPL signals are expected to be broadbanded in nature. This broadband energy will appear to other spectrum users as increased background noise. Users who routinely rely only on strong signals (such as domestic television and radio broadcasters) may be able to tolerate this increased noise level.

Users who routinely must be able to receive weaker signals will have that ability seriously impaired if BPL is allowed in their assigned spectrum. These users include amateur radio operators, long-haul SSB aircraft radio operators, SSB marine radio operators, public safety radio operators, mobile business radio operators, and others.

Just as importantly, signals from licensed spectrum users will couple into the power lines carrying the BPL signals.

In a recent FCC proceeding, the electric power industry objected to the creation of a new amateur radio band in the VLF region on the basis that even a one-watt signal from an amateur radio station could couple into the power lines and disrupt the power companies' VLF control signals. The FCC agreed with this concern, and rejected the petition to create the VLF amateur band.

Amateur radio operators are authorized 1500 watts in the 1.8 - 54 MHz range. One thousand, five hundred times the power level the power companies said could cause interference to their systems. On top of that, power lines are much more efficient as antennas in the 1.8 - 80 MHz range than they are in the VLF range.

Other users of the 1.8 - 80 MHz spectrum also use high power levels. If one watt of RF coupling into the power lines is a problem, then BPL faces an immense problem of interference from the licensed users of this spectrum.

Even if BPL is widely deployed in the 1.8 - 80 MHz range under current Part 15 regulations, it will still cause interference.

Part 15 devices are intended to be localized low-power RF emitters. Part 15 rules work because at a distance, the signal from a Part 15 device is negligible. The rules limit power as well as antenna size on these devices.

An Access BPL system is nearly all antenna. Because of these effectively huge antennas, Even BPL systems operated at Part 15 power levels will efficiently radiate the RF signals over entire

neighborhoods and along major roads. It will be nearly impossible to get away from the resulting background RF noise (sometimes known as a high noise floor).

Another aspect of part 15 rules is that Part 15 users must not cause harmful interference. Power companies here in Florida have not had a good history of correcting interference problems generated by their own power distribution equipment. I have had to identify which specific power pole is generating RF interference, and threaten to report the company to the FCC before any remedial action has been taken. Other amateur radio operators I know have had similar experiences.

Current Part 15 rules are not adequate when applied to BPL - especially Access BPL. BPL is a radically new application of RF energy with potentially devastating effects on communications of licensed spectrum users. Clearly FCC regulation of BPL needs to be tailored accordingly.

Part of this regulation should include limiting BPL frequencies to those occupied by users who will not be greatly affected by an increase in the noise floor.

The FCC is responsible for protecting licensed spectrum users from interference. Don't let enthusiasm for a new source of revenue for electric power companies compromise that responsibility.