

Dear FCC,

As an engineer with over four decades of experience in telecommunications and a licensed radio amateur for sixty-two years, I am concerned about the feasibility of the contemplated broad band over power line. (BPL)

Given the wide swaths of HF and low VHF spectrum being considered for BPL and the characteristics of transmission line systems intended for transmission of 60 Hz power - not HF and VHF - I believe serious interference problems are inevitable. Radiation of the BPL signals from the power lines will degrade reception throughout the HF and low VHF frequency ranges. Conversely, the reciprocal reception/interception of signals transmitted by services operating in the HF-low VHF frequency range are likely to adversely affect the BPL operation.

It is a fundamental requirement of transmission lines that the separation between the conductors be small in terms of the wavelength. This results in cancellation of the magnetic fields from currents in each conductor so that there is little radiation from or interception of other signals by the transmission line. Open wire transmission lines suitable for use in HF or VHF ranges have separation of only several inches. Separation between power lines is much greater so radiation, and interception at significant levels is inevitable, regardless of whether differential or common mode feed of the power lines is employed for HF/VHF BPL signals.

The ARRL has made recordings at one of the BPL test sites which demonstrate severe levels of interference such that normal signals can not be received. These results contradict industry claims that existing services, including amateur radio, will not be harmed.

I am not aware that any testing for interference or susceptibility has been performed by BPL industry to date.

In summary:

-The spectrum of high speed data signals is rich in HF/VHF energy
-Power lines are not suitable for transmission of HF or VHF signals

The BPL industry must perform adequate testing to demonstrate that their contemplated implementation does not result in "Interference from BPL Emissions" as described in paragraph 18 of the NOI.

Respectfully submitted

John L. Kennedy

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