

I completely support the well thought out Comments submitted by The American Radio Relay League concerning Docket ET 03-104 and Broadband over Power Line (BPL).

Power lines are inherently not good transmission lines at radio frequencies. There is little or no mechanism to prevent unwanted radiation. Instead, they act more like an antenna! The effectiveness of power lines radiating unwanted interference is well know to most users of the HF spectrum. Usually, this interference is due to unwanted arcing across insulators or unwanted rectification and re-radiation of other legitimate signals due to poor connections. In the latter case the unwanted rectification can cause interference at various harmonics and other distortion products of the original signal(s) over widespread areas. BPL proposes to intentionally introduce digital signals rich in harmonics onto these same power lines at frequencies across the entire HF and lower VHF spectrum. The level of these BPL signals would have to be significant, perhaps higher than the existing level of power line noise and interference products, to achieve a usable signal to noise ratio. Given that interference already occurs it follows that the interference to licensed services will be increased due to BPL.

Proponents of Broadband over Power Line (BPL) have apparently dismissed the impact of this interference. Field observations by the ARRL (American Radio Relay League) at sites already testing BPL indicate tremendous amounts of interference to stations in the HF spectrum. These users include not only Amateur Service Stations but also Short Wave Broadcast, Citizen's Band, Military, Government, and Commercial services. This is not calculated or theoretical data but actual observations of intense interference rendering the frequencies involved almost useless! It should be incumbent on the proponents of Broadband over Power Line to demonstrate that their system does not cause any interference before any deployment of BPL is allowed. From the ARRL observations it is apparent that the current test BPL systems need significant improvement before they are ready for general use.

Due to reciprocity, the power lines are not only good radiators but also good receptors of RF energy. It is interesting that the commission recently cited an interference potential to existing PLC systems when refusing to allocate a narrow band of frequencies at 136 kHz to the amateur service. The proposed power level was 2W EIRP. It is hard to imagine that current legitimate users of the HF and lower VHF spectrum, operating at several orders of magnitude above 2W EIRP, will not be plagued by complaints of interference from users of BPL.

BPL is not ready to coexist with the current occupants of the HF and lower VHF spectrum. Further research and innovations in BPL will be needed to avoid the great risk this technology will cause irreparable damage to services licensed to operate in the 2 MHz - 80 MHz frequency range.

Approval of ET 03-104 would be contrary to existing FCC Rules on non-interference and would not be in the best interest of the public.

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