

RE: BPL Notice of Proposed Rule Making (NPRM) in ET Docket 04-37

Comments of William L. D'Agostino, WB1DMK

I am opposed to the current plan to allow broadband over power line (BPL). I do not believe that the new FCC proposed "safeguards" are capable of addressing the inherent problem with BPL generated harmful interference to the Amateur Radio Service. My objections center around the tremendous amount of radio noise which can be generated by BPL.

For example, I have been an Amateur Radio Operator for over 25 years, and I routinely enjoy running low power two-way communications with less than 350 milliwatts. This amount of high frequency (HF, i.e., 3 MHz to 30 MHz) radio power is minuscule, yet, it is capable of propagating a radio signal cross the country as well as around the world for reliable two-way communications.

Next, I am also a professional engineer, and I hold a US Patent for an antenna design. As such, I am very familiar with the concept that an unshielded, unbalanced wire carrying HF alternating current is a text book definition of a radio antenna. Since, by definition, the proposed BPL concept is to transmit HF alternating current across unshielded, unbalance wires -- this means that every BPL system power line is a HF radiating antenna.

Now, here is the dilemma. If you assume that a signal BPL transmission line has a conservatively low HF radiation percentage, such as 50 milliwatts of radiated HF power per 100 feet of wire, then a neighborhood BPL system with 25 miles of wire will be radiating 66 Watts of radio noise which will completely obliterate my 350 milliwatts Amateur Radio two-way communication! But, it gets worse, a BPL system with 250 miles of wire could easily dump 660 Watts of radio noise into the Amateur Radio spectrum. Likewise, 2,500 miles of BPL will dump 6.6 kilowatts of HF radio noise into the sky, and 25,000 miles of BPL will dump 66 kilowatts in to the radio sky. In addition, the actual BPL radiating amounts could easily exceed this conservatively estimate of 50 milliwatts of radiated HF power per 100 feet of wire by a factor of 10, 100 or even 1000+ which just makes this bad situation much worse.

Next, radiated HF radio power does not stay in the local neighborhood! As proven by my small 350-milliwatt transmitter, HF radio signals at any power level will prorogate across the country and around the world. This means that a BPL system in Chicago can easily dump enough HF radio noise into the sky to obliterate my ability of conduct two-way HF radio communication in Hamden, Connecticut, which is hundreds of miles away from Chicago!

Because of this simple fact that HF radio waves propagate across great distances, how will an Amateur Radio Operator in Hamden, Connecticut, successfully locate the source of radio noise from a BPL system in Chicago? The short answer is that it will be impossible. If BPL is implemented throughout the country, Amateur Radio Operators like myself will have no chance to identify sources of BPL radio noise causing harmful interference to the Amateur Radio Service. This problem gets even worse when the BPL generated

harmful interference is caused collectively from thousands of miles of BPL wires. Again, it will be impossible for Amateur Radio Operators to successfully identify and file FCC complaints against BPL systems hundreds or thousands of miles away!

No matter what type of new "rules" which the FCC imposes to address harmful interference from BPL, the basic problem is that most Amateur Radio Operators will be unable to identify the source of the BPL interference. Physics states that BPL systems will radiates HF radio noise, but how will the new FCC rules be able to change the laws of physics? Or, how will the new FCC rules address that BPL radio noise can cause harmful interference hundreds or thousands of miles away for the source(s)?

This harmful interference problem from BPL radio noise is not limited to the Amateur Radio Service as it will impact all HF radio users (Military, Commercial, and Public Safety) and Short Wave Listeners (SWL's) too.

Finally, the Amateur Radio Service is more than just a hobby. The Amateur Radio Service has a proud history of public service especially in times of crisis after major disasters such as Hurricanes, Tornados, Wild Fires, and the like. Personally, I have been volunteering my Amateur Radio skills to the American Red Cross for years, and I am the coordinator for a monthly American Red Cross Hurricane Watch Radio Net using Amateur Radio. It is public service such as this which is in jeopardy of being destroyed by BPL.

I am urging the FCC not reject the concept of BPL since there are no viable safeguards which will prevent BPL generated harmful interference nor allow Amateur Radio Operators the ability to identify the source(s) of the BPL generated harmful interference especially when it occurs hundreds of miles away.

Please reject BPL.

Sincerely,  
William L. D'Agostino  
WB1DMK  
19 Douglas Drive  
Hamden, CT 06518