

I would like to thank the commission for allowing me to comment on NPRM ET 04-37.

I must take exception that BPL is an unintentional radiator. Anytime a source of RF energy is coupled to a wire the system is an intentional radiator of that energy. The only unintentional part of BPL is that this radiated energy is not used to convey information. The proponents of BPL understand that energy is lost from their systems due to radiation. That is why during the initial NOI the request was made for higher power limits for Part 15 devices to overcome this loss.

BPL systems will radiate RF energy and such the connecting wires to a BPL RF emitter must be treated as an antenna. Power measurements must be made in all planes around the device and associated wires to determine the radiation pattern and the maximum signal strength for Part 15 compliance.

BPL signals must have some form of readily decoded identification. After some training, it is easy to identify a BPL signal footprint but some method must be in place to know who is responsible for the RF emissions.

I take exception to the term mitigation. Mitigation implies that a Part 15 device has some inherent right to the spectrum in question. Just because a licensed user does not happen to be using their spectrum at any given time does not mean that they have given up the right to use that spectrum at some future time. The licensed user has an expectation that his assigned frequencies will be free of interference when they are needed. This freedom from interference also extends to the passive mode of receiving signals. Many times, the communications circuit is activated by sometimes weak signals from other stations. These weak signals may not be heard if a Part 15 "squatter" has decided to preempt the spectrum assigned to the licensed user. I find it strange that the commission would require a licensed user to make accommodations with a Part 15 user for the Part 15 user to vacate what should be interference free spectrum assigned to the licensed user.

Some BPL systems are frequency agile. They must also be power agile. The information carrying part of the system is the conducted RF signal not the radiated RF signal. The BPL system must measure the noise floor of the intended frequency of use and limit power so that the radiated RF is at or below the noise floor at any given time. BPL must not add to the noise floor.

Proponents of BPL have stated that BPL has the infrastructure in place to supply broadband because the power poles and wires are in place. I think they are misstating the case. There will be quite a capital investment required to supply the rest of the equipment required to make the BPL system functional. To follow this chain of thought a case could be made that the infrastructure is in place for WiFi or WiMax because the power poles are in place. The overall capital expenditure may be less for a WiFi system.

BPL proponents state that BPL will supply broadband services to rural locations. The economics just do not bear this out. The return on investment to connect rural sites just is not there. If it is the intent of the commission to use BPL to connect rural America then

BPL providers must be forced to connect X number of rural subscribers for every Y number of urban and suburban subscribers they connect. ROI is there for connecting users to broadband for urban and suburban areas. BPL providers understand this because all of their test areas have been urban and suburban locations. If it were economical feasible to connect rural areas to broadband then cable and DSL would already have been extended to these remote sites.

I take exception to the commission's comments about licensees orienting their antennas away from power lines because of existing power line noise. Licensees that have directional antennas orient their antennas to maximize the signal path between stations. The location of power lines has no bearing on the decision on where the directional antenna is oriented. Those licensees that have fixed antennas very rarely consider the location of power lines when installing antennas except for safety reasons. Power lines already fall under Part 15 as unintentional radiators. It already is incumbent on the power companies to eliminate any interference caused by their equipment to licensed users. At times the enforcement of Part 15 rules in the case of power line interference can be quite tedious as evidenced by the commission's own enforcement records.

BPL systems should not be classified as a Part 15 device. BPL requires its own licensing structure. Part 15 covers devices that, by their nature, generate RF energy as a byproduct of their operation. Also classed as a Part 15 device are devices that use very low power to convey information via RF signals. These devices generally use low power and limited antennas to limit their range. These devices also generally operate on frequencies that the commission has set aside for this purpose. In any case anytime these devices cause interference to commission licensed services they must cease operation until the interference is corrected. BPL does not fit under these rules. First, BPL, as designed, can unilaterally decide to use any frequency in the HF through low VHF range irregardless of incumbent users of that spectrum. Looking at the frequency allocation charts all frequencies from 3 MHz through 80 MHz are assigned to various services. With this in mind, BPL can not operate in this frequency range without the potential of causing interference to the incumbent users of that spectrum. Second, all Part 15 users must cease operation if they are causing interference and accept interference from any licensed users. To be realistic, I doubt that any BPL service provider will be willing to disrupt hundreds or thousands of customers in a fully deployed BPL system by shutting down their system because of interference complaints or to allow their customers to be disrupted by signals from licensed users. The commission should do the work required set up a new class of service for BPL with its own rules and regulations and its own primary spectrum allocations.

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