

Comments on NPRM 04-37

Protection of Licensed Services from Harmful Interference Disruption of BPL by Licensed Services

The NPRM proposes additional, new constraints on BPL to protect licensed services.

However, as far as the power line companies are concerned, this is open to interpretation. As an example, it was reported in the media recently that Progress Energy Corp (PEC) of North Carolina had told the FCC that the company has eliminated any harmful interference from its BPL trial site and now complies with FCC rules.

Local amateurs closely monitoring BPL deployment in the test zones and cooperating with Progress Energy Corp to work out any interference issues say interference remains on the top end of 20 meters, interference to 17 and 12 meters had been notched out, but BPL interference persisted from 14.290 to nearly 17 MHz and still encroached into the bottom of 15 meters.

If the power companies are either unable or unwilling to notch out the Ham bands during a period where they are being watched over closely by the FCC, what will their stance be after this initial testing is over?

The FCC's proposed interference mitigation requirements fall far short of providing real protection from harmful interference, and the Commission is ignoring the practical problems that will arise when Amateur Radio transmissions disrupt BPL systems.

What About BPL Interference Propagated Over Large Distances?

The HF frequencies used by BPL are the same ones that are used by individuals and their governments to communicate worldwide. That means that BPL can be propagated to anywhere in a radius of thousands of miles. This can easily interfere with many others who are not in the local area where the BPL is originally generated.

This will make enforcement of the Part 15 rules very difficult indeed. How will anyone be able to make a complaint to the relevant utility when that unknown utility could be located a thousand miles away?

At the very least, this suggests that the BPL packets should be able to be decoded by the person who is being interfered with and contain the name of the Utility that is generating the packet.

The NPRM does not mandate a publicly accessible BPL database

To facilitate interference mitigation, this is a bare necessity.

In addition, the FCC should establish performance standards for BPL interference mitigation. There must be severe enforcement penalties for failure to resolve a complaint in real time and for failure to maintain the database.

BPL's Impact on Mobile Operations

The proposed rules remain silent on the issue of mitigating BPL interference to the estimated 70,000 Amateur Radio HF mobile stations.

Progress Energy Corp concluded that since BPL interference to mobiles would be "very short lived," the company is not causing harmful interference and is in "full compliance" with FCC Part 15 rules.

Carrier current systems like BPL are subject to the FCC's Part 15 rules governing unlicensed devices. FCC Rules on Part 15 devices are based on them being "point sources" so that any interference is likely to be localized and easily driven away from.

Unfortunately, BPL is not a point source. It is a radio wave being propagated all along very long power lines. Mobiles driving by a single power line with BPL running on it can hear the signal for more than a mile.

Having BPL buzzing across all the power lines in a city is another story entirely. Driving away from the source of the noise will be impossible.

How Much Interference Is Acceptable?

None.

If BPL emissions block weak signals that otherwise would be usable, that is harmful interference and the utility must remedy the situation.

If a Mobile station can drive parallel to the wires and hear interference then the BPL power levels are too high.

The only solution is an absolute limit on radiated emissions that is lower than the present limit. True engineering studies must scientifically determine what the limit must be.

No Ham Complaints Have been Received By the Utilities

No hams live in the underground-wired neighborhood, so none complained. The handful of BPL interference complaints eventually lodged with the FCC came from amateurs living closer to the overhead-wired neighborhood, and some were from mobile operators.

You can be assured that any interference that is strong enough to block any but the strongest signals on an active Amateur Radio Operator's favorite band is going to elicit a complaint. An estimated 150,000 of them -- who use high-gain antennas sited near power lines -- are on the radio daily. If no complaints were received it's only because the trial was situated in an area that "coincidentally" had no Amateur Radio Operators.

ARRL field observations using typical amateur equipment have documented BPL interference to mobile stations located hundreds of meters from BPL interference sources. Obviously, the signals are very potent.

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