

Dear FCC,  
I highly appreciate FCC's providing and extending Notice of Inquiry, Docket No. 03-104 regarding Carrier Current Systems, including Broadband over Power Line (BPL) Systems to August 20, 2003.

I am a licensed amateur radio operator, FCC call sign AA6VE, (also JF1DMQ in Japan), and have strong concern with the spectrum pollution (interference) which will be caused by the new broadband over power line technology the FCC is considering for approval.  
I am against the plan.

In August 2002, Japanese ministry concluded and officially announced that "at this stage, increasing the frequency bandwidth that is used in power line communications would be difficult, and proposed that qualification be put in place to implement feasibility tests in areas such as promoting modem research and development;"  
[http://www.soumu.go.jp/joho\\_tsusin/eng/Releases/Telecommunications/news020809\\_3.html](http://www.soumu.go.jp/joho_tsusin/eng/Releases/Telecommunications/news020809_3.html)

Experiments using actual MODEMS showed that the radiated noise is much stronger than usual amateur radio signals and broadcast signals, and totally destroy the communication, at a distance of from 3m (10feet) to 156m (520feet) between the power line and the receiving antenna. It has been shown that the interfering signal is some 50 dB stronger than the environmental noise level, a suggested noise level.

One of the experimental report which was reported and presented at the governmental working group is :  
[http://www.jarl.or.jp/Japanese/2\\_Joho/2-7\\_plc/akagi\\_report.pdf](http://www.jarl.or.jp/Japanese/2_Joho/2-7_plc/akagi_report.pdf)

The experimental data were also presented at :  
"7th International Symposium on Power Line Communications and Its Applications", 26-28 March, 2003, Kyoto, JAPAN  
<http://www.qsl.net/jh5esm/PLC/isplc2003/isplc2003a2-3.pdf>  
<http://www.qsl.net/jh5esm/PLC/isplc2003/isplc2003a2-3.pdf>

The actual impact can be verified by the recorded sounds audible at :  
<http://www.qsl.net/jh5esm/#PLCsounds>

Other experimental reports can be found at :  
<http://www.jarl.gr.jp/plc/report1/>  
<http://www.qsl.net/jh5esm/PLC/sjcieee2002/SJCIEEE2002-12-14.pdf>

The experimental results are in agreement and support the " Calculated Impact of PLC on Stations Operating in the Amateur Radio Service", published by the American Radio Relay League :  
<http://www.arrl.org/tis/info/HTML/plc/files/C63NovPLC.pdf>

The actual experiment showed that standard such as 30uV/m at 30m distance is inadequate, and more stringent values should be used.

First, the observed radiated noise level was far much stronger than the natural noise level of 1uV/m or so depending on frequency.

Second, the measuring distance should be a few feet. Many of us live in

a house closer than 30m (100feet) from the power lines, and in house, we are usually a few feet from the power line and house electric appliances. We can't tolerate a new refrigerator and air conditioner destroy AM/FM radio or TV reception.

Third, campus radio systems should be separated from the discussion. Campus radio are purposed to be heard by public using radio receivers, so the frequency are chosen so that it does not give interference to nor interfered by existing broadcasting radio stations of the neighboring community. A different frequency is carefully chosen for co-existence or compatibility. However, the Broadband over Power Line (BPL) Systems has broad noise spectrum, a non-identifiable anonymous noise, and radiates noise on radio communication frequencies. In order BPL to be compatible with existing radio communication, the radiated signal strength should be controlled to be very weak, which has been proven to be difficult. In a word, current BPL technology is not compatible with existing radio communications.

Current BPL technology destroys, or at least give significant damage to existing radio communications. This includes amateur radio, broadcast radio, radio locators, aeronautical radio, marine radio, government communication, and other important radio communications, the loss of which may very well lead to loss of lives and properties. Especially amateur radio and broadcast radio are one of vital means of communication in case of natural hazard.

Current BPL technology will produce dangerous interference. I would like to propose giving it at unused exclusive frequencies (e.g. 19GHz, 25GHz, 60GHz).

I hope FCC's conducting actual measurement if necessary, and I truly hope FCC's wisest consideration.

sincerely

Hideho YAMAMURA, AA6VE