

## The Monroe Evening News

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### COMMUNITY CURRENTS

# Broadland Power Lines facing problems

In your recent reprint from *The New York Times* regarding investment in Broadband over Power Lines (BPL) there were many claims made. Such statements may have a place in the marketing of the BPL manufacturers, but there is a problem with BPL that is not being addressed effectively by most BPL proponents: radio interference.

ARRL, the National Association for Amateur Radio, has participated in testing in a number of the BPL marketing trials and has seen interference to radio reception on some spectrum in all of the sites their staff and volunteers have examined.

Currently, only those BPL systems that completely avoid the use of spectrum allocated to the Amateur Radio Service appear to have any promise at avoiding most interference that may occur to amateur radio. But simply moving BPL to other frequencies can still cause interference to other radio services.

There is one exception, Motorola's LV design for a system that uses only low voltage lines, looks very promising. By working closely with Amateur Radio in their development and by totally avoiding signals on medium voltage lines, as used by most BPL providers, the LV system significantly reduces the interference problems that plague most other manufacturers. Motorola has also added filters to their product to significantly reduce its interference potential.

Other BPL manufacturers, notably Current Technologies, IBEC and Corridor Systems, have designed their systems without using spectrum allocated to the Amateur Radio service. This, too, has reduced their interference potential, although not

quite as well as a system that uses additional filtering. Other BPL systems using equipment made by other manufacturers have active, unresolved complaints of harmful interference filed against them. In most other cases, BPL proponents may pronounce their marketing trials as being "successful," but to ARRL's knowledge, no BPL trial has included a thorough examination of interference issues if deployed on a large scale, so it is premature to pronounce these tests to be a complete success.

Even past Chairman Powell of the FCC, one of the most vocal proponents of BPL, admitted the seriousness of the interference issues. Simply put, there is no way that radio frequency signals are going to stay contained in a wire designed to carry normal electric power. It will radiate and pollute the radio spectrum. The FCC's October, 2004, Report & Order recognized this danger to communications and totally barred the BPL companies from using frequencies associated with aeronautics and some governmental agencies. Obviously, these concerns about interference and spectrum pollution were not seen as trivial or resolved by the FCC. For the rest of the radio community, there was the FCC promise that if a licensed system experiences harmful interference due to BPL in the area, the BPL provider must either fix it in a timely way or shut their system down. Many BPL trials have already closed after being unable to resolve the interference issues.

National Telecommunications and Information Administration (NTIA) studies have determined that broadband over power line creates a "high risk" of radio wave interference, and that harmful interference to public safety mobile radio receivers can be expected at distances of 300 feet from the power line where broadband over power line is in operation, and

at distances of up to 1500 feet from fixed stations, such as VHF police or fire dispatch communications facilities.

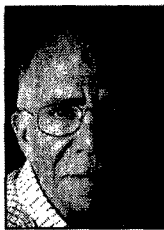
Many public safety agencies and support services, including emergency medical services, fire, and law enforcement, utilize Low-Band VHF (30-50 MHz). Thirteen states use the band for state police operations, while it's the primary public safety radio band in nine states.

The Association of Public Safety Communications Officials Inc. and the National Public Safety Telecommunications Council urged the FCC to withhold final action in the BPL proceeding for at least a year, pending a "conclusive determination" of BPL's potential to interfere with public safety and other licensed radio systems operating below 80 MHz. Unfortunately, the FCC acted prematurely and now there is a pending resolution calling upon the FCC to reconsider their hasty decision of October, 2004.

The article also did not address the reverse problem of interference to BPL by licensed, legally operating radio systems. Since BPL will be using radio frequencies, it is likely that BPL service will be slowed or even stopped by radio transmissions in the area. Tests have been done by Amateur Radio operators that show that even a few watts of transmitter power nearby can cause some BPL systems to temporarily stop working.

Amateur Radio Operators are not against BPL. In fact, hams have historically been one of the first groups to adopt new technologies and possibilities. What the amateur operators and many other radio user groups are so concerned about is the pollution of wide areas of the radio spectrum by interference from BPL.

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