I am an Extra class amateur radio operator (AG4RQ). I received a formal education in electronics and radio communication. I also used to have an FCC Second Class Radiotelephone License with Radar Endorsement (Lic. No. P2-7-15540). The only reason why I currently hold no valid commercial license is that I elected not to renew.

Broadband over Power Lines (BPL) as a third avenue to provide broadband high-speed Internet access, in addition to cable and DSL on the surface seems like a good concept. However, it comes with a very high price tag. Proponents of BPL indicate and / or imply that BPL would cause no interference to licensed radio services. In reality, it could cause enough interference across the HF and low VHF spectrum to make radio frequencies between 1.7 MHz and 80 MHz totally unusable by existing licensed services. I’ve seen and heard the ARRL video, which was made in four BPL test areas. The video documents the entire HF spectrum to be unusable due to interference from BPL.

All this very limited testing that is going on at this time, although damaging enough to the HF spectrum is the mere tip of the iceberg once it is implemented full scale, all across the country. The US power grid is the largest antenna in the world. We are on the downside of a relatively weak solar cycle. Astronomers predict the next solar cycle to be a strong one. Does anyone remember 1958? Couple a strong solar cycle with a broadband HF and low-band VHF signal propagated by the world's largest and most efficient long-wire antenna, and we have a recipe for disaster – worldwide! BPL has the potential to render the entire radio spectrum from 1.7 MHz to 80 MHz unusable worldwide once the next solar cycle peaks.

Hams provide communications that save lives. The Maritime Mobile Net on 14.3 MHz comes to mind. Hams provide hurricane information to the National Hurricane Center through the Hurricane Watch Net on 14.325 MHz. Hams also provide valuable information about funnel clouds and other adverse weather conditions to the National Weather Service. During disasters when the infrastructure goes down and all regular methods of communication (landline telephone, cell phone, Internet, etc.) are either knocked out or rendered unusable by overloaded demand, it is the hams who provide emergency communications for police, fire, EMT, the Red Cross and such. Regardless of the type of disaster – hurricane, tornado, flood, wildfire, earthquake or terrorism, hams will have emergency communications networks up and running within minutes. The best examples of this were the 9/11/2001 attacks and the recent power outage in the Northeast this month. The FCC designates emergency frequencies on 40 and 75 meters every time there is a disaster. Also, the FCC bridged our propagation gap for emergency communications by granting us five frequencies on 60 meters. BPL could render these frequencies unusable.

Amateur radio occupies only small patches of the HF spectrum. We share HF with many other users, such as aeronautical mobiles, maritime mobiles, the US military and others. We also share the HF spectrum with other users throughout the world. Isn't radio spectrum protected by international treaty? Radio waves in the HF and low VHF frequencies are subject to worldwide propagation. In the low-band VHF region, TV channels 2, 3 and 4, the 6m Amateur band, public service and more would be affected.

Harmonics could very well affect frequencies much higher than 80 MHz. Such users include FM broadcast on 88-108 MHz, the air band on 108-136 MHz, public service and business users on 2 meters, police, fire, EMT, local government (city, county and state) and who knows how much else up the line, maybe even all the way into UHF and beyond.

Just as an example, my cell phone operates on a digital GSM on 800 MHz and 1.9 GHz. I always know when my cell phone is going to ring. Two seconds before it rings, I get interference on both AM and FM broadcast radio, and through my shielded computer speakers. The interference continues until I answer the call. Once I pick up the call, the interference subsides.

It is to my understanding that the National Association of Broadcasters filed a comment with the FCC expressing concern for the potential of BPL interference to TV broadcasts. It is also to my understanding that the National Telecommunications and Information Administration also filed a comment with the FCC also expressing their concern regarding potential interference from BPL to users of radio spectrum under NTIA domain (i.e.: military and government). I also understand that NTIA will be conducting their own elaborate testing of how BPL interference might affect not only frequencies within 1.7 MHz to 80 MHz, but how BPL harmonics and intermodulation might affect frequencies all the way up to 1 GHz.

Hams, and the service they provide are very important to our nation's homeland security. Right after the 9/11/2001 terrorist attacks, President Bush stressed the importance to the American public of volunteering to do service for our country. Hams have been doing this for about the last 100 years. Our frequencies need to be protected so that we can continue to do so.

Other users of HF frequencies are aeronautical mobiles, maritime mobiles, the US Military, other US Government agencies, astronomers and many others. To render the HF spectrum unusable due to a high noise floor could place our national security at risk.

Some other things to think about are:

---How BPL might affect instrumentation on airliners and even military aircraft?

---How BPL might affect medical equipment and instrumentation at hospitals?

---How BPL might affect telemetry devices?

---How BPL might affect the nations railroads and subways which run on electric power; especially the automated subway systems such as BART in San Francisco, WMATA in Washington DC, MARTA in Atlanta, Metrorail in Miami and PATCO in Philadelphia and Southern New Jersey, not to mention their communication systems on 160-161 MHz.

---How about instrumentation on ships?

---Drawbridges?

There are many unanswered questions. We would only find out the full effects of BPL and what its consequences are, once it is implemented, and once we've gone through another solar cycle.

Unless and until all the issues of all the possible consequences of BPL and the interference that it has the potential to cause are addressed and solved, I cannot support implementing this technology. The only way that I could support the implementation of BPL is if it could be documented that it would cause no harmful interference to any of the existing licensed radio services.

I ask the FCC to take the findings of other countries that have rejected BPL into consideration, as well as the data that NTIA will be submitting from their tests and data from the ARRL's research, and I ask the FCC to conduct BPL monitoring and testing of their own, and not to permit this proposed technology to proceed unless all the interference issues are addressed and solved first.

The fundamental rule of Part 15 devices are that they must accept interference from licensed services and they are not permitted to interfere with licensed services. I ask that this fundamental rule of Part 15 not be modified in any way, and that the FCC enforce it to the letter regarding BPL and any other Part 15 devices. I also ask that the FCC not modify Part 15 by increasing the level of interference that Part 15 devices are permitted to emit.

Sincerely,

Mark M. Oring
AG4RQ