

Reply Comments about ET Docket 03-104 submitted by UPLC June 22

As a licensed Amateur Radio Operator, providing public service and emergency communications, I am very concerned about the integrity of the HF spectrum that is being wastefully proposed to be destroyed by Access BPL. I consider HF BPL an old technology that offers only limited performance with high risk of interference. The Manassas, VA BPL system is only offering 300Kbps service.

1. The UPLC has submitted a highly biased and inflammatory document that does not deserve full reflection by the FCC.
2. The FCC must employ a prescriptive and through approach to interference protection, measurement, and mitigation because of the long documented history of the Utilities not being responsive to power line noise interference and the new profit motivated commercial service being proposed.
3. The UPLC apparently does not understand the relationship between licensed and unlicensed operations and why Part 15 has been in place to provide some structure and protection.
4. The UPLC is incorrectly assuming that Access BPL is the only way to satisfy competition in the broadband market. There are many wireless solutions that can provide high performance solutions that do not require in house installations and can still provide the desired IP presence at the utility facilities.
5. I disagree with UPLC in that BPL is an intentional radiator in that it is no longer a point source and because interference has been demonstrated, and complaints have been filed, the UPLC is planning on deploying a solution with deliberate and known interference caused by a transmitter connected to a long and elevated antenna system. This would hardly be an unintentional radiator.
6. I disagree with the UPLC that just because the BPL signals are operating at lower power outputs than licensed users that interference will not occur. The issue is the relative received signals. Because of their personally funded nature and emergency deployments, Amateur Radio received signals are very frequently weak. The BPL signals may be small at their generation point, they are physically located very close to both fixed and mobile Amateur antennas and will have relatively stronger signals that will be interference.
7. I disagree with the UPLC characterization that new BPL systems should not cause new interference just because existing carrier current systems have been in operation for years without causing interference. The existing carrier current systems operate in the 135KHz portion of the spectrum where there is no US Amateur spectrum.
8. I disagree with the UPLC that BPL interference should be traced and remedied. It should be designed into the product rather than being a burden to all parties after the fact.
9. I disagree with the UPLC in that BPL will always be an unlicensed service that should not interfere and must accept interference. Because BPL is no longer a point source, it should not be treated like other simple Part 15 devices. I agree with the NTIA that Access BPL should have it's own regulatory sub-part.
10. The UPLC incorrectly states that existing interference complaints have been fixed, swiftly of at all. Since many of the BPL trials have been conducted under non-disclosure, many licensed

users have not known where the interference is coming from. UPLC incorrectly connects HF licensees with HF operators. In many cases, covenants and deed restrictions by homeowner associations have made HF operations difficult.

11. I disagree with the UPLC in that a rush to market is not in the best interest of licensed users. Today's chip sets do not universally have built-in interference mitigation techniques that will allow for swift elimination of the illegal interference from BPL.

12. I strongly disagree with the UPLC position that interference to licensed users should be allowed for two years. This is simply illegal operation with no recourse from licensed users. This process would also create an unfair competitive environment with the unlicensed wireless operations.

13. I disagree with UPLC that Access BPL is the only way that the utilities can improve their electric service. A wireless service with battery back power could bridge across failures that a BPL system would not be able to diagnose.

14. I disagree with UPLC that Access BPL will noticeably improve the energy efficiency or reliability of the electric system that is based on mostly on aging physical components, poorly trained staff, and insufficient public interfaces.

15. UPLC is ignoring the fact that many wireless solutions are being deployed today and new emerging standards are being developed that will allow not just the tethered BPL solution but truly mobile solutions that would be more desirable to both the utility field crews and the public.

16. UPLC incorrectly characterizes BPL and being a faster solution than other broadband platforms. An example of this is the Manassas, VA system that is only offering 300Kbps service.

17. Considering that the UPLC has periodic teleconferences to compare notes between the "independent entities" that are reporting their results, I doubt that the reported findings are truly independent. I trust the NTIA findings because they are without pecuniary interest, just like Amateur Radio.

18. Although using an interference measurement antenna that is balanced, instead of using a whip antenna will provide more consistent measurements, any mobile HF operators will be using a vertical whip antenna, so using a whip antenna may be a more representative way to demonstrate what a mobile user will experience.

19. I suspect that the NTIA measurements of a BPL system where they only measured interference at certain frequencies may be due to the measurement of a lightly loaded pilot system. The previously documented HomePlug tests indicated consistent interference from about 2-25 MHz.

20. I strongly disagree that using worst case scenarios are improper if there were a rush to judgement. It is clear from documented interference that the FCC should adopt regulations to proactively protect against this new type of Part 15 interference.

21. It is critical that illegal BPL emissions are not allowed from the start of operations. There should be no two year grandfathering.

22. If there is a database of BPL systems, it must be deployed before a system is in operation so that interference before and after can be documented by each potential licensed operator so that interference will be easily documented and proven, without debate.

If all houses in a given community are blanketed by BPL, and the location of the community or utility is known, there is no competitive advantage if there is full disclosure of the information. Since the BPL devices are clearly visible on the power poles, the presence of a database would not make them more susceptible to a terrorist attack.

23. Existing Part 15 point sources provide extremely time limited interference to HF mobile operation. Ubiquitous BPL operation in a community will not be transitory interference. The UPLC is proposing to have no recourse to a licensed mobile user. This is patently unfair to the licensed user and directly in conflict with the intent of Part 15 rules stating that those emitters must not cause interference. If interference mitigation is not built into the product, the licensed users will have no recourse. The proactive elimination of interference should be the burden of the BPL manufacturer and the local operator. That is the whole point of Part 15 rules.

24. Because of the profit motivated BPL operator, I totally support the requirement for independent testing of HF noise prior to a BPL deployment so that interference complaints and mitigation can be done without subjective debate.

25. I reassert that BPL is an intentional radiator because it is a transmitter that is directly connected to an antenna system.

26. The UPLC complains that having too many interference mitigation notches would detract from the delivered bandwidth. This is exactly why the competitors will win customers with higher performance wireless solution. This is exactly why BPL is an outdated and impractical technology to deploy.

27. The UPLC is incorrectly focused solely on negotiating with the NTIA. The HF spectrum is filled with Amateur, commercial, and shortwave broadcast receivers.

28. The UPLC is focused on the added costs of compliance with interference mitigation. It is entirely reasonable for BPL operators to respond to and resolve interference on a 365 by 24 by 7 basis because HF radio operations are in fact impacted and enhanced by annual and hourly ionospheric effects. Because the BPL operators are getting frequencies for free, they should be able to fully account for the costs associated with operations that do not interfere with licensed operations. If the BPL providers were paying for spectrum, just like the cellular providers, the debate would be very different.

29. It is both reasonable and proper for BPL providers to fully and completely notify their BPL customers of the interference mitigation risks which might include the sudden slowing or termination of service. The reduction of consumer confidence is a direct result of the lack of insufficient product development.

30. The UPLC complains about the purported misinformation by the BPL opponents but manages to dish out it's own highly biased view and the lack of respect for licensed users.

31. The UPLC is endorsing a 4 part test for frivolous complaints about interference. The UPLC does not understand what the "normal course of the complaint's operations" even implies. It is entirely normal for an amateur operator to move quickly from frequency to frequency or band to band in search for someone or someplace to communicate with. Mobile operation is equally random. If there are fines levied for this activity, I see a series of wasteful litigation. Some amateur communication is short in

duration and could be harmed by momentary interference without the possibility of the message being repeated. How is an amateur operator to prove in court that a momentary interference occurred? What is the duration of momentary? Amateur communications are frequently weak, in some cases below the noise floor with special software. Unintelligible is undefinably close to hard to interpret which is how the litigation would proceed. Most amateur receivers have roughly the same sensitivity but some also have receiver preamplifiers. Interference that the BPL operators must legally avoid is that which impacts today's licensed operations, not some arbitrarily defined level of financial comfort.

32. It is entirely reasonable for the knowledgeable operator of a BPL system to certify the system in which the BPL components are installed. The medium and low voltage power lines are the antenna that the BPL transmitter is connected to so it is not reasonable for just the transmitter without antenna to be certified.

33. The BPL technology is not an exciting technology. It is relatively slow, tethered, and will be burdened with the interference issue. Wireless providers with new and faster mobile solutions will quickly overtake any existing BPL implementations. Home networking is specifically available with NLOS wireless products. Wireless systems can provide symmetrical performance. Wireless solutions can provide low latency and network security. Wireless solutions can be scalable and provide plug and play convenience. I would say that the cable-DSL duopoly is being quickly replaced with a triopoly with wireless being the third strong leg. Wireless solutions can be deployed by 2007 without harmful interference before BPL can be deployed with harmful interference.

34. The BPL manufacturers are mostly newcomers to the broadband environment. They are just learning what the RF environment is about and why interference mitigation is important. Amateur Radio has been involved with all forms of wireless since it's inception. Because of it's importance to Homeland Security, it should be taken seriously.

Respectfully submitted for your serious consideration.