

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of )  
 )  
Amendment of Part 15 Regarding New ) ET Docket No. 04-37  
Requirements and Measurement Guidelines )  
For Access Broadband over Power Line Systems )

To The Commission

**REPLY COMMENTS from David A. Lewis to the  
Comments Submitted by United Power Line Council**

The following are reply comments from David A. Lewis, an amateur radio operator (Extra Class licensee - call sign N1OL), who has been closely involved on both a professional and hobby basis with radio technology since 1970 and the Internet since 1994.

My comments are a reply to the comments submitted by United Power Line Council (UPLC).

UPLC comments *"In all of these deployments, there have been virtually no reported instances of interference, and any interference that has occurred has been corrected quickly and easily"*. The UPLC fails to document the actual number of complaints, how the complaints were processed and by who or provide any information on the time taken to resolve them. Complaints submitted to the Commission have been forwarded to the FCC OET (Office of Engineering Technology). These complaints have not been included in the public record by the Commission. I call upon the Commission to make public all BPL interference complaints that have been submitted so that all of the information on BPL is available to the public. "Fast tracking" BPL rules and withholding

relevant information could be seen as failure to provide “due process” and result in legal challenges that would create uncertainty with respect to BPL in the future. I urge the Commission to carefully review the Nol and NPRM process and timelines for BPL including the availability of information, There is a large body of opinion evidenced by the Nol and NPRM submissions that BPL has serious problems, to fast track a rules process and not require all the evidence to be public could be seen as both unfair and capricious action by the Commission.

UPLC comments *“Access BPL testing has proven that the interference potential is extremely low, and quite manageable.”* In addition to my call on the Commission to make public all the complaints I ask that for each complaint the time to for the interference elimination to be documented and the amount of Commission resources spent on each interference complaint. In addition I ask the Commission what resources will be required to handle the complaints generated when BPL systems are widely deployed and an assurance that the Commission’s costs will be met by the BPL providers. I would also like to draw the Commission’s attention to a statement made to the European Community by the German Government on October 16<sup>th</sup> 2003;

“German Government does not regard a European legal framework which results in general freedom to use PLC as desirable at the present time, because Germany has a lot of negative experience with the compatibility of radio networks and line-bound networks. Initial findings about PLC applications suggest that, despite contrary assurances by the manufacturers, the ceilings in force nationally cannot be adhered to.”

The comment by the German Government is very relevant as Germany is reported to have the highest number of BPL (AKA PLC) users of any country and has several years of experience of commercial BPL deployment. I suggest that the Commission meet with

their German counterparts and understand their concerns and the history of BPL in Germany. I would also note that BPL has not made a significant contribution to broadband availability in Germany. In 2002, the German utility RWE set a 300,000 take-up target for its Powerline Communications broadband venture. This looked to offer consumers telephony, Internet and security products centered on the home. After being able to sign up only 2,000 customers RWE abandoned BPL. Elsewhere in Europe BPL has not been successful, one system in the U.K. (where BPL was first introduced in 1998) is reported to only have 50 customers out of a potential 10,000;  
[http://www.theregister.co.uk/2004/03/26/punters\\_stay\\_away\\_from\\_winchester/](http://www.theregister.co.uk/2004/03/26/punters_stay_away_from_winchester/)

UPLC comments *“Access BPL devices will not cause the power lines to “act as countless miles of transmission lines all radiating RF energy along their full length. These opponents have produced no scientific evidence to show otherwise, and all the measurements in the field contradict their abstract calculations.”* I refer the Commission to the NTIA report and in particular the comment on page 7-8 where the NTIA states “as shown by NTIA’s measurements and models (Section 5), peak field strength levels are not necessarily centered at the BPL device”.

UPLC comments *“A carrier current system that transmits high frequency (>1.7 MHz) radio frequency energy by conduction over electric power lines owned, operated, or controlled by an electric service provider for the purpose of delivering broadband data services. The electric power lines may be aerial or underground, but do not include power lines within the customer premises or in riser conduit within buildings.”* Any power line carrying BPL should be included irrespective of its location or ownership. Interference from any power line carrying BPL should be the responsibility of the BPL operator and come within scope of the BPL rules. To exclude some power lines from the

rules will transfer the burden of interference elimination to a third party and add more uncertainty. I also ask that the Commission require BPL providers to minimize the number of power lines carrying BPL and that any power line that does not connect to a broadband customer to have a filter installed that provides a 60db attenuation of BPL frequencies to prevent the unnecessary propagation of BPL.

UPLC comments *“the absence of any significant number of interference complaints demonstrates that the existing emission limits do adequately prevent interference from BPL to other licensed operations in the high-frequency band.”* The absence of a complaint procedure that is generally accessible to BPL interference victims makes any comment by the UPLC on complaints irrelevant and should not be taken as any assurance that BPL is not interfering.

UPLC comments *“The UPLC agrees that “the current Part 15 levels will limit the harmful interference potential of Access BPL devices to relatively short distances around these devices”* The UPLC fails to backup their statement with real data, I draw the Commission’s attention to the comment on page 9-4 of the NTIA report “At one measurement location where a large number of BPL devices were deployed on multiple three-phase and single-phase MV power lines, appreciable BPL signal levels (i.e., at least 5 dB higher than ambient noise) were observed beyond 500 meters from the nearest BPL energized power lines.”

UPLC comments *“the database need not be complicated to be effective, and simplifying the database will minimize the administrative burden and cost of maintaining it.”* It is reasonable and fair to all parties that any victim of BPL interference is subject to the minimum delay, inconvenience and cost when resolving an interference complaint.

The database structure and the complaint process should be focused on eliminating interference on the basis of “time is of the essence” and bureaucratic hurdles are not placed in the way of interference victims. The Commission must also take into account that some users of the shortwave broadcast bands are the general public and may lack radio expertise, the interference elimination procedures need to account for this.

UPLC comments *“In addition, the UPLC offers its services as the appropriate industry operated entity to receive notifications and maintain the Access BPL database.”*

I request that the Commission should initially maintain the database and ensure that it is working effectively prior to appointing a third party to maintain it. The cost of the database and complaints procedure can be recovered from BPL users in a regulatory charge similar to the way that phone companies recover regulatory costs from phone users.

UPLC comments *“Now, it is very important to stay the course of protecting authorized operations without granting them veto rights to kill BPL in the cradle.”* I would like to remind the Commission of a presentation given by Michael J. Marcus of the FCC OET on December 11<sup>th</sup> 2001 to a meeting of BPL proponents. Mr. Marcus titled his presentation “Some Thoughts on Power Line Communications (PLC) and FCC Regulation of Emissions” in his presentation he urges the proponents of BPL to work closely with a number of organizations including the NTIA, ARINC, ARRL, NAB, NCTA, APCO and strongly emphasized that “Harmony with other spectrum users would speed any possible regulatory deliberations”. It is clear that in contrast to seeking harmony the proponents of BPL have focused on disinformation and denial of the interference issues.

In conclusion, Broadband deployment is critical with many Americans denied broadband, it is even more critical to “do it right the first time” and not invest in a system that is so fatally flawed. I also urge the Commission to look to how other countries have successfully addressed broadband deployment, in particular the UK that has already achieved 90% DSL coverage with a target of 99% DSL coverage by summer 2005; <http://www.btplc.com/News/Pressreleasesandarticles/Corporatenewsreleases/2004/nr0435.htm>

It should be noted that the 99% DSL coverage figure for the UK in the summer 2005 does not include cable and wireless broadband, UK BPL customers are estimated at less than 200.

A huge amount of time and work has been focused on providing very detailed technical responses to clarify interference issues. Many of the filings come from our most able engineers, had this effort been diverted into “How do we get broadband across the digital divide initiative” lead by the Commission we could be in sight of a rural broadband solution today.

Respectfully submitted,  
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