

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
Inquiry Regarding Carrier Current Systems,)
including Broadband over Power Line) ET Docket No. 03-104
Systems)
)
)

To: The Commission

**JOINT REPLY COMMENTS OF
THE ASSOCIATION FOR MAXIMUM SERVICE TELEVISION, INC.
AND THE NATIONAL ASSOCIATION OF BROADCASTERS**

The National Association of Broadcasters (“NAB”) and The Association for Maximum Service Television, Inc. (“MSTV”)¹ submit these reply comments in response to the Commission’s *Notice of Inquiry* in this proceeding. *Notice of Inquiry* in ET Docket No. 03-104, rel. Apr. 28, 2003 (hereinafter “*Notice*”). The Commission has recently granted experimental licenses under 47 C.F.R. Part 5 to evaluate Broadband over Power Line (“BPL”) equipment operating from 1.7 to 80 MHz.² BPL systems operating in this

¹ NAB is a nonprofit, incorporated association which serves and represents America’s radio and television broadcast stations. MSTV is a non-profit trade association of local broadcast television stations committed to achieving and maintaining the highest technical quality for the local broadcast system.

² Ambient Corporation, File No. 0218-EX-ST-2002, Special Temporary Authority (“STA”) granted December 24, 2002; Ameren Energy Communications, Inc., File No. 0093-EX-PL-2002, Experimental Authorization (“EA”) granted June 5, 2002; Amperion, Inc., File No. 0046-EX-PL-2003, EA granted March 11, 2003; Current Technologies, LLC, File No. 0046-EX-ML-2002, EA granted Sept. 12, 2002; Hawaiian Electric Company, Inc., File No. 0089-EX-PL-2003, EA granted May 22, 2003; PPL Electric Utilities, File No. 0183-EX-PL-2002, EA granted Oct. 1, 2002; Progressive Energy

range pose serious risk of interference to television channels 2-5, especially the eleven stations currently transmitting a digital broadcast signal on those channels,³ as well as several stations who are likely to elect lower VHF channels at the end of the digital television transition.⁴ As discussed below, a number of commenters, including BPL proponents, recognize the likelihood of interference to existing licensed radio services. Thus, to ensure that the public's free over-the-air television service remains clear of any interfering signals, the Commission should limit BPL use to below 50 MHz.

I. BPL Transmissions Will Likely Interfere with Licensed Radio Services.

It is clear from the comments filed in this proceeding that there is a significant potential for BPL to cause interference to licensed radio services. A number of parties raise interference concerns in their comments.⁵ Indeed, some BPL proponents admit to the possibility that BPL could cause interference to other services. Ambient Corporation

Service Co., File No. 0011-EX-PL-2003, EA granted Feb. 10, 2003; Southern Telecom., Inc., File No. 0126-EX-PL-2002, EA granted Aug. 29, 2002.

³ The DTV stations currently in operation on channels 2-5 are WBBM-TV, Chicago, IL; WKYC-TV, Cleveland-Akron (Canton), OH; WHMT, Grand Rapids-Kalamazoo-Battlecreek, MI; WHP-TV, Harrisburg, Lancaster, Lebanon-York, PA; KVBC, Las Vegas, NV; WDKY-TV, Lexington, KY; WBRA-TV Roanoke-Lynchburg, VA; WTWC, Tallahassee, FL-Thomasville, GA; WMAZ-TV, Macon, GA; KOTA-TV, Rapid City, SD; and KTVM, Butte-Bozeman, MT.

⁴ See In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service, *Sixth Report and Order*, 12 FCC Rcd 14588 (1997) at ¶¶ 82-83 ("*Sixth Report*"); In the Matter of Second Periodic DTV Review, *Notice of Proposed Rulemaking*, MB Docket No. 03-15 (Jan. 15, 2003) at ¶ 25.

⁵ Wireless Communications Association International Comments at 2; American Radio Relay League comments at 7; Sprint Corporation Comments at 2; Verizon Comments at 4; National Association of Shortwave Broadcasters Comments at 2; Amateur Radio Research and Development Corporation Comments at 2; National Academy of Sciences' CORF Comments at 4; REC Networks Comments at 1; IEEE Power Systems Relaying Committee Comments at 4; Radio Amateur Satellite Corporation Comments at 2.

(“Ambient”) states that the “‘Access’ part of the BPL network, especially overhead wires, are more likely to radiate electromagnetic interference (EMI) ...”⁶ EMI often causes degradation to licensed radio service reception. Similarly, Ameren revealed that they observed emissions above the Part 15 limits during their field tests, and that these emissions were probably caused by their BPL transmission.⁷ Neither Ambient nor Ameren, however, offer a technical solution to mitigate interference, aside from ceasing transmission once notified by a licensed radio service that interference has occurred. In addition, the Information Technology Industry Council (ITI) acknowledges that interference concerns are technically well founded.⁸ They state:

The potential interference from transmissions over power lines will be propagated by these extended wireline networks or antenna. In fact, the radiated emissions from these extended networks are likely to propagate throughout entire neighborhoods causing potential interference *to many electronic devices and licensed services throughout that service area.*⁹

Thus, Ambient, Ameren and ITI all recognize the risk of interference to licensed radio services.

Further, it is clear that much more testing is needed in order to determine the exact nature of the interference that BPL will cause. There is very little actual test data that has been submitted the Commission. Only one party submitted test data into the record – Ameren submitted field tests as part of its second report pursuant to the terms of

⁶ Ambient Comments at 9.

⁷ Ameren Comments at 13.

⁸ ITI Comments at 3.

⁹ *Id.* at 4 (emphasis added).

its experimental license.¹⁰ It concluded that, in the band where their BPL system was operating (2 – 30 MHz), there were emissions above the Part 15 limits. Ameren attributed the peaks above the Part 15 emission limits to its BPL transmissions.¹¹ Because Part 15 limits were exceeded, it is likely that its transmissions would cause interference to licensed radio services. Thus, it is logical to conclude that if BPL systems were allowed to operate up to 80 MHz, interference could be caused there as well. Ameren’s data raises very serious questions about the ability of BPL to operate on a non-interference basis in any band.

Further, some BPL proponents argue that they have received no complaints of interference during their experimental field trials and offer this as evidence that BPL systems will not cause interference generally.¹² This argument is flawed. It is a well-known fact that although consumers may observe that something is wrong with their reception, they do not recognize it as interference. Even if they do, consumers may be unable to identify the interference source. In the case of over-the-air broadcasting, consumers frequently change the channel or turn off the receiver.¹³ The Commission should not use the “lack of complaints” as a basis to authorize BPL. Instead, the

¹⁰ Ameren Comments at 13.

¹¹ *Id.*

¹² Ameren Comments at 9, PowerWAN Comments at 3, United Power Line Council Comments at 9, Southern Linc, Southern Telecom and Southern Company Services Comments at 19, Amperion Comments at 5.

¹³ *See, e.g.,* B. Angell & Associates, *AM Radio Interference Study*, June 1988, filed in MM Docket No. 87-267 at 27. While this study focused exclusively on radio, NAB and MSTV assert that the study accurately represents television viewers’ behavior as well. *See also* Comments of MSTV, NAB and the Association of Public Service Television Stations in the Matter of Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz band, ET Docket No. 02-380, April 17, 2003 at 13-14.

Commission must place the burden on the BPL proponents to demonstrate with relevant scientific measured data that it will not cause interference to licensed radio services. At a minimum, the Commission should settle issues regarding measurement procedures *before* moving forward in this proceeding. It is vital that all measurements, particularly radiated measurements on Access BPL systems, are uniformly conducted. Moreover, the Commission should require all operating BPL systems to submit actual measured data as a condition of their experimental licenses.

II. BPL Systems Should Not Be Authorized Above 50 MHz.

The Commission sought comment in the *Notice* on the appropriate frequency bands for BPL operations. *Notice* at ¶ 15. NAB and MSTV note that none of the BPL proponents advocate operating above 50 MHz. For example, the United Power Line Council (“UPLC”) points out that “while experimental authorization has been granted to some parties to operate from 1.7 to 80 MHz, as a practical matter BPL operations have been confined to below 50 MHz.”¹⁴ Indeed, some commenters suggest that an upper limit of 30 MHz would be sufficient – Enikia, LLC and xG Technology, LLC both state that frequencies above 30 MHz should not be necessary.¹⁵ Simply stated, the record does not reflect a demonstrated need for BPL operations above 50 MHz.

III. Conclusion.

For the reasons stated above, BPL systems radiating RF energy are likely to interfere with existing licensed radio services, including television broadcast bands. Prior

¹⁴ UPLC Comments at fn 14.

¹⁵ Enikia, LLC Comments at 1, xG Technology, LLC Comments at 4.

to going forward in this proceeding, the Commission first needs to understand the nature of the interference generated by BPL systems. NAB and MSTV strongly urge the Commission not to authorize BPL above 50 MHz.

Respectfully submitted,

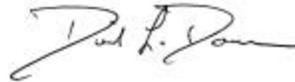
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A handwritten signature in black ink, featuring a stylized star-like symbol followed by the name "Bobeck".

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A handwritten signature in black ink, appearing to read "David L. Donovan".

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August 20, 2003

CERTIFICATE OF SERVICE

I, Joan Flowers, Legal Secretary for the National Association of Broadcasters, hereby certify that a true and correct copy of the foregoing Reply Comments of the National Association of Broadcasters was sent the 20th day of August 2003, by first-class mail, postage prepaid, to the following:

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