

**Before the Federal Communication Commission**  
**Washington, DC. 20554**

<b>In the Matter of</b>	)	
	)	
<b>Notice of Proposed Rulemaking</b>	)	<b>ET Docket No. 04-37</b>
<b>Broadband over Power Line Systems</b>	)	

**Reply Comments to the Notice of Proposed Rulemaking by Ronald L. Breitwisch**

I am pleased to offer reply comments to those offered by the Disaster Emergency Response Association, and the joint comments of the Association of Public Safety Communications Officials-International, Inc. (APCO) and the National Public Safety Communications Council (NPSTC).

I have been an Advanced Class Amateur Radio operator for over 30 years, and am employed as a System Engineer for a Satellite Communications system for a major aircraft avionics manufacturer. I am also the Amateur Radio Emergency Service (ARES) District Emergency Coordinator for Iowa District 5. In this capacity, I have the opportunity to be involved in Amateur Radio communications in support of emergencies in a seven county area in Iowa. I am also the Amateur Radio representative to the Linn County (Iowa) Emergency Management Commission, and am an active volunteer with that agency. It is from this perspective that I offer my comments.

**AMATEUR RADIO SUPPORT OF EMERGENCY COMMUNICATIONS**

1. The benefit of HF communications via Amateur Radio continues to be recognized as a valuable source of backup communications in the event of a widespread emergency. Both public safety and private communications continue to migrate from traditional dedicated frequency systems and infrastructure to more bandwidth efficient, shared systems (including cellular telephones). An unfortunate consequence of this consolidation is to make these communications less capable of expanding to meet communications needs in the event of a major disaster.

2. Communications in the HF frequency bands, in particular, offer a unique capability for long distance communications without reliance on any infrastructure beyond the stations themselves. Effective stations can be quickly erected in the field to provide intra-state and even international communications in the event of a disaster.

#### BPL TRIALS IN CEDAR RAPIDS, IOWA

3. I have followed closely the testing of the Broadband Over Power Lines (BPL) trial system installed by Alliant Energy in a small area of Cedar Rapids, Iowa. Several local Amateur Radio operators have been working with Alliant Energy to evaluate the potential impact of their BPL trial system that operates in the HF band. A detailed technical report documenting the extent of the interference in this trial area has been submitted in a reply comment by Allan Erickson. Other Amateur Radio operators in this area have experienced similar interference, and have filed complaint letters with the FCC. The levels of interference experienced by these Amateurs in the BPL trial area are of serious concern. Even after attempts to mitigate the interference by Alliant Energy, and their equipment provider Amperion, the levels of interference are still excessive.

#### HARMFUL INTERFERENCE CAUSED BY BPL

4. Amateur Radio is part of the documented Multi-Hazard Emergency Operations Plan maintained by the Linn County Emergency Management Agency, and the plans in place in the event of an emergency at the Duane Arnold Nuclear Energy Center. One defined role in both of these plans is to provide backup communications between the County Emergency Operations Center (EOC) and the State EOC is Des Moines, Iowa. Due to the distances involved, the only communication method that does not involve intermediate infrastructure is Amateur Radio HF communication.

5. Experience obtained during regularly conducted drills indicates that the communications path is reliable in the 3.9 MHz region at night, and the 7.2 MHz frequencies during the day. However, the signal levels are marginal (S3 to S7) despite the use of full sized dipoles at both EOCs. From the technical data obtained from the trial area, it is clear that HF communications between EOCs could not be sustained if the BPL system was expanded to provide service to the areas adjacent to either EOC. Interference levels observed in the trial area were stronger than the signals commonly received in the Linn County EOC.
  
6. In the event of a major disaster, other HF stations may need to be established at various disaster sites. These will likely have less capable antenna systems at the transmitter end, making the signals even harder to receive at the receiver. It is hard to imagine that a BPL provider would devote his resources to immediately shutting down or reconfiguring their systems in the area of these temporary HF stations, even if the infrastructure necessary to control the BPL system remotely was not affected by the disaster.

## CONCLUSION

7. I urge the Commission to not support deployment of BPL systems that employ HF frequency transmissions over unshielded power lines. The very nature of BPL systems requires that these potentially interfering signals will be present on essentially every street in the served neighborhood. The widespread installation of these systems puts the interference potential on a scale unprecedented of other systems previously implemented under Part 15 regulations. The experience in the Cedar Rapids BPL trial area has demonstrated that mitigation techniques are of limited effectiveness. The interference levels present even after mitigation attempts would preclude the use of HF for disaster communications for most of the applications in our current disaster plans.

Respectfully submitted,

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