

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

In the matter of)	
)	
Carrier Current Systems, including)	ET Docket No. 03-104
Broadband over Power Line Systems)	
)	
Amendment of Part 15 regarding new)	
requirements and measurement guidelines)	
for Access Broadband over Power Line)	ET Docket No. 04-37
Systems)	

JOINT COMMENTS OF

The Association of Public-Safety Communications Officials-International, Inc. (.APCO.), and the National Public Safety Telecommunications Council (.NPSTC.)¹ (collectively referred to herein as the Joint Parties), hereby submits these comments in response to the above-captioned proceeding. Both of these organizations represent members involved in public safety communications.

BACKGROUND

In this NPRM, the Commission proposes among other items, certain rules and restrictions on new Broadband Power Line (BPL) systems to minimize harmful interference to licensed services. It is the potential for harmful interference to licensed public safety

¹ The members of NPSTC include: American Association of State Highway and Transportation Officials, American Radio Relay League, American Red Cross, Association of Public-Safety Communications Officials-International, Forestry Conservation Communications Association, International Association of Chiefs of Police, International Association of Emergency Managers, International Association of Fire Chiefs, International Association of Fish and Wildlife Agencies, International Municipal Signal Association, National Association of State Emergency Medical Services Directors, National Association of State Telecommunications Directors, and National Association of State Foresters.

radio systems that concerns the joint parties. The joint parties see the merit of new technology that can potentially provide broadband data to under served rural areas. This potential must not be allowed to come at the cost of harmful interference to public safety radio systems in the HF (2-7 MHz), low VHF (30-50 MHz) bands and the 72 to 76 MHz band.

DISCUSSION

In the NPRM, the Commission states its belief that the risk of harmful interference to public safety systems is low. To date the joint parties have seen no comprehensive test programs that validate the Commission's beliefs. On the contrary, preliminary data gathered in the United States and abroad points to the potential of significant interference in spectrum shared with BPL technologies. The NPRM goes on to propose measures to mitigate harmful interference to public safety systems if such interference occurs.

However, these measures are reactive, not proactive. The measures will be implemented only after interference occurs. In addition, it appears the burden of identifying cases of interference is placed on the public safety user. Considering the rural nature of public safety operations in the VHF low bands, the only way a public safety agency will know that interference is present in a given location will be when an officer cannot communicate in that area. This will compromise the safety of both officers and the public they serve. Furthermore, this is a distributed technology that, by its very nature, will make it difficult to isolate interference points. The reality is that the overall effect of

BPL implementation will be a potentially significant increase in the noise floor rendering impossible otherwise acceptable mission critical public safety communications. In attempting to identify the source of the interference, the public safety agency will have to know what the noise floor was prior to the BPL system being installed, with no real way to disable such a distributed system to make these baseline measurements.

The HF band (2-7 MHz) is widely used by state emergency management agencies to coordinate disaster response. The VHF Low Band (30-50 MHz) is used by many first responder agencies (EMS, fire and law enforcement), as well as public safety support services. The 30-50 MHz band is used significantly by thirteen states for state police operations (with nine, including California, using it as their primary band)². Importantly, these public safety systems are typically concentrated in rural areas where the most significant use of BPL is anticipated. Public safety equipment in the 30-50 MHz band is typically vehicle mounted, and may include ¼ wave antennas mounted on the deck or roof of vehicles such that the antennas could be very close to power lines carrying BPL signals. Because public safety radios are vehicle mounted, users typically traveling down roadways could anticipate being next to power transmission lines and their associated BPL signals over a significant portion of their vehicle service area since utility rights-of-way typically follow public roadways.

The band from 72 to 76 MHz supports fire alarm callbox systems generally limited to one watt of transmitter power. The low power and one-way transmit nature of these units

² CA, CT, FL, IL, IN, MS, MO, NE, NC, SC, TN, WV, WY

make them susceptible to BPL interference. In many cases, these alarm boxes are the sole means of reporting fires in commercial properties.

Amateur operations in the HF band may receive interference from BPL. The joint parties are aware of the great concerns amateur operators are expressing for the potential interference from BPL. Amateurs provide valuable communications support to public safety during disasters. Any harmful interference to amateurs in the HF bands will disrupt those valuable services from the amateur community.

Public safety experiences with reactive measures to identify and mitigate random occurrences of interference in location and time are not good. As these Joint Comments are being written, the Commission is considering how to deal with interference in the 800 MHz band. It appears, wide spread implementation of BPL systems could lead to the same widespread random destructive interference now occurring in the 800 MHz band being introduced into both the HF 2-7 MHz “Operation Secure” and VHF 30-50 MHz bands. A belief that interference potential is low is not the same as knowledge that the potential is low. The joint parties strongly assert that knowledge should replace beliefs when there is risk to public safety operations and, to the delivery of mission critical safety of life and property services to the public at large.

It certainly is not to the benefit of the companies implementing BPL systems to be continually correcting cases of interference. They could be faced with the need to stop providing service or only providing very degraded service if cases of harmful interference

are higher than the Commission expects. The joint parties do not want to be in the position of demanding that BPL operators cease operating due to harmful interference to public safety radio after these companies have made large investments in BPL infrastructure. This would be in no one's interest.

The joint parties urge the commission to call on the BPL operators to fund a yearlong demonstration system of sufficient scale to prove that harmful interference to public safety and amateur radio operators will be rare. The joint parties to date can find no real world demonstration that conclusively shows BPL systems will rarely or never cause interference to public safety or amateur systems. The joint parties acknowledge that this recommendation will raise concerns of delaying a new technology. However, we note that public safety users have been waiting since 1996 for use of 24 MHz of spectrum and the new wideband data technologies promised in the 700 MHz band. A one-year delay that allows proof of rare or no interference seems to us to be a small price. Fielding this technology, without a demonstration, would leave the public open to absorbing considerable expense either directly or indirectly should the technology end up being unusable. Costs of decommissioning would be born directly by the subscriber due to the purchase of then unusable equipment, or, if BPL subscribers were reimbursed, paying the costs born by their utility provider to fund the reimbursement. Failure of the BPL technology leaves the public as the loser both from a public safety standpoint and as the ultimate funding source for a failed experiment. Thus, such a demonstration project would decrease the risk to the Commission and to the public of needing to deal with another 800 MHz catastrophe in the HF and VHF bands some years in the future.

SUMMARY

The joint parties are not opposed to BPL technology. We **do oppose** introduction of any new technology that will interfere with vital public safety communications. With this technology, even the Commission acknowledges there is potential for harmful interference. Because there are no real world studies designed to gage the interference to public safety, the joint parties are very concerned that the HF and VHF bands will receive random harmful interference. To resolve these concerns, the joint parties urge that a yearlong demonstration project be undertaken to show rare or no interference from BPL systems.

Respectfully submitted,

/s/

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