Department of Public Safety
MISSOURI STATE HIGHWAY PATROL
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An Internationally Accredited Agency

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May 3, 2004

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Federal Communications Commission
445 12 ST SW
Washington, D.C. 20554

Dear Secretary:

The Missouri State Highway Patrol respectfully submits the enclosed comments in the matter of **Carrier Current Systems, including Broadband over Power Line Systems,** ET Docket No. 03-104, and **Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems,** ET Docket No.04-37.

As a public safety user in the 42 MHz band, the Missouri State Highway Patrol will potentially be impacted by implementation of Broadband over Power Lines. We are naturally concerned that any interference resulting from its implementation will be difficult to identify, mitigate, and resolve.

We appreciate the opportunity to comment. Thank you for your time.

Sincerely,

James C. Biggerstaff, Director
Communications Division

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

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

COMMENTS OF THE MISSOURI STATE HIGHWAY PATROL

The Missouri State Highway Patrol hereby submits these comments in response to the above captioned proceedings. This statewide law enforcement organization represents Missouri State Troopers dedicated to serving the public throughout Missouri and has for over 70 years been a user of wireless public safety communications to affect this mission. The communication ability that allows these first responders to affect their duties must continue.

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 this potential for harmful interference to licensed public safety radio systems introduced by BPL technologies that concerns the Missouri State Highway Patrol. If the possibility of BPL interference caused in rural areas to users between 2 and 80 MHz is consistent with conclusions previously reached abroad,

serious consideration must be given to relocating wide area law enforcement users using spectrum in this band range to other public safety bands for their mission critical operations. The Missouri State Highway Patrol utilizes a statewide radio system with over 1400 users using State and Provincial Police 42 MHz VHF Low Band channels with statewide mobile coverage coordinated on a national basis. While the Patrol appreciates the merit of new technologies that can potentially provide broadband data to underserved rural areas, any new technologies introduced in those areas with potential to deteriorate a first responder's communications abilities has to be introduced cautiously, as the safety of the public and the preservation of a first responders communications resources is paramount. In particular, this rural broadband potential must not be allowed to come at the cost of harmful interference to public safety radio systems in the Low VHF (30-50 MHz) bands.

DISCUSSION

As communications personnel from the Missouri State Highway Patrol have been working on this issue with the National Public Safety Telecommunications Council (NPSTC) and the Association of Public Safety Communications Officials, Inc (APCO), the Missouri State Highway Patrol supports filings on the Docket by these organizations. In the NPRM, the Commission states its belief that the risk of harmful interference to public safety systems is low. To date, comprehensive test programs that validate the Commission's beliefs have not been undertaken by the Commission. On the contrary, preliminary data gathered in the United States and abroad points to the potential of

significant interference in spectrum between 2 and 80 MHz 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 indicated to be reactive, not proactive, and an incident of interference might risk the ability of a public safety end user to communicate at a time of crisis, creating an environment where injury or death might be the result of a reduction in communications ability.

As a law enforcement agency, it is our responsibility and practice, to notify our field personnel when we identify potential dangers users might encounter within their workplace, and we have identified BPL technologies as a potential detriment to their communications. We believe the Commission's proposal, placing the burden of identifying and proving cases of interference on the public safety user rather than the interferer is wrong and not consistent with past interference mitigation paradigms. Considering the rural nature of public safety operations in VHF Low 42 MHz bands, the only way a public safety agency will know that interference is present in a given location will be when an officer finds he/she cannot communicate in that area. Furthermore, this is a distributed technology that, by its very nature, will make it difficult to isolate interference points and those desiring to implement BPL technologies should prove to the first responder community that the new technology causes no destructive interference. The overall effect of BPL implementation will be a potentially significant increase in the noise floor, which will render impossible otherwise acceptable mission critical public safety communications.

The Missouri State Highway Patrol urges the commission to call on the BPL operators to fund a yearlong demonstration system in Missouri to identify and study whether BPL technologies will introduce destructive interference to existing wide area operations. If such a demonstration yields results (to be interpreted by an independent third party) consistent with conclusions reached abroad indicating there will be a high probability of interference to first responders between 2 and 80 MHz, those desiring to implement BPL technologies in Missouri would have to fund mitigation efforts to remove any interference potential to public safety systems. Steps to mitigate interference could include declaring the HF and VHF Low bands as inadequate for mission critical operations requiring the full compensation of relocating licensed Missouri public safety users out of the band into other available public safety bands. Thus, such a demonstration project would decrease the risk to the user community, the public and the Commission of dealing with the results of dynamic destructive interference to mission critical public safety operations.

SUMMARY

The Missouri State Highway Patrol is not opposed to BPL technology. We do oppose introduction of any new technology that will interfere with vital public safety communications, particularly between 2 and 80 MHz. With this technology, even the Commission acknowledges there is potential for harmful interference and the Patrol cannot ignore the possibility of this technology negatively impacting its current

communications environment and its users. Because there are no real world studies designed to gauge the interference to public safety users in the 42 MHz VHF Low Band, the Missouri State Highway Patrol is very concerned that the result of BPL technology introduction will be unacceptable harmful interference to its users and other Missouri first responders operating in the band. To resolve these concerns, Missouri State Highway Patrol urges a demonstration project be undertaken in the State of Missouri by those desiring to implement BPL technologies in the state, to demonstrate the result will create no interference to existing VHF Low Band systems. If destructive interference to users between 2 and 80 MHz is identified as a result of BPL implementation, industry compensation to mitigate the interference to the satisfaction of the user community, including the possibility of full compensation to remove the users entirely from the areas of the band in question should be required by the Commissions rules.

Respectfully submitted

James C. Biggerstaff, Director

Communications Division