

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

**In the Matter of:**

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

**To: The Commission**

**REPLY COMMENTS OF THE SIX METER INTERNATIONAL RADIO KLUB**

The Six Meter International Radio Klub (SMIRK) wishes to offer these Reply comments in this Proceeding. SMIRK, an organization of over six thousand radio amateurs interested in operation on the 50 to 54 MHz amateur band, filed comments in this Proceeding.

1. SMIRK notes that measurements taken at several Access BPL test sites have shown that the radiation from these systems is strong enough to cause significant interference to amateur stations. Such interference is obvious from examination of the comments filed by Mr. Carl R. Stevenson as well as ARRL. Though neither of the reported series of tests deal with frequencies in the vicinity of 50 MHz, they clearly show the effects of Access BPL at the frequencies at which it was operating in those particular instances. If Access BPL were to operate above 50 MHz, as some of its proponents are proposing, it will completely disrupt the weak signal work which our members, and other 6 meter operators, conduct regularly between 50 and 50.3 MHz. It will also threaten the FM communications conducted higher in the band. In addition, there is much use of the 53 to 54 MHz

portion of the band for model control, including powered aircraft. Access BPL, operating in that range could interrupt control of these models, potentially causing harm to life and property.

2. SMIRK finds it fascinating that those promoting Access BPL present NO test data regarding interference - merely assurances that any interference will be taken care of. On the other hand, several amateur groups, including the aforementioned Stevenson and ARRL, have submitted data demonstrating the interference that Access BPL produces. The assurance that interference will be taken care of seems disingenuous at best, especially in light of the lack of attention power companies give to complaints of noise generated by their lines. It is understood that the Commission, even with its considerable workload on other pressing matters, has recently had to become involved in resolving some of these cases. SMIRK shudders to think of the workload the commission will face with the thousands of complaints that are certain to flood in as a result of Access BPL interference..
3. In examining various comments in this Proceeding, SMIRK finds that of Progress Energy (Progress) one of the more interesting. Despite data from actual tests, Progress claims that "the interference potential of Access BPL is marginal." However, Progress admits that it has received several complaints of what it terms, "alleged harmful interference from amateur radio operators (hams)". Nevertheless, Progress dismisses such complaints since, according to them, "those who have submitted complaints about the Progress Energy's BPL system, intentionally seek out interference using very sophisticated and sensitive

equipment.” Apparently, Progress is under the impression that amateurs generally use inferior equipment of 1930s vintage. Generally; SMIRK members, and most amateurs who operate 6 meters, employ quite sophisticated equipment, including very sensitive receivers and high gain antennas. These antennas must be oriented in the direction of the station to which the amateur is communicating or attempting to communicate with, or sometimes in some odd direction to take advantage of a particular propagation phenomenon. It would be unsatisfactory if the antenna had to be oriented in some other direction merely to avoid interference from Access BPL signals being radiated from power lines. The Commission alleged in its Notice in this proceeding, that amateurs already orient their antennas to avoid power line noise. For the reasons, cited above, SMIRK considers that statement, ridiculous on the face of it. Our antennas, must be pointed in the optimum direction for best communication. This is but one aspect of being able to make contact with distant stations, which often have very weak signals.

Another admission that Access BPL is certain to cause interference is provided by Ambient Corporation (Ambient). Ambient claims that "under the Commission's policies, a certain amount of interference between devices is acceptable; however, beyond a certain limit, interference can be considered ‘harmful.’” Ambient asks the Commission “to set boundaries for what is considered ‘harmful interference’, so, that there is a realistic opportunity for the early deployment of BPL technologies...” In other words, Ambient asks the Commission to define "harmful interference" in such a manner as to permit Access BPL to operate while causing interference. Since there seems to be a question as to what constitutes

“harmful interference”, SMIRK is prepared to offer one. We believe that “harmful interference” is any interference strong enough to keep a signal from being copied when it could have been if there had been no interference. That seems simple enough. Thus, it is not how strong the interference is that determines that it’s harmful, it’s the effect it has on the desired signal. From the test data we’ve seen, we can only conclude that if, Access BPL utilizes frequencies of 50 MHz or above, it WILL cause harmful interference to amateurs using the 6 meter band. We understand that Part 15 of the Commission’s Rules stipulates that, devices operating under that Part, are not to cause harmful interference to ANY licensed service. That certainly includes Amateur Radio. Therefore, since Access BPL has been shown to cause harmful interference, it should not be permitted to operate. But, even IF the Commission decides to ignore the effects Access BPL will have on Amateur Radio, and plunge ahead with the technology because of the perceived value it supposedly will bring; it cannot escape the fact that other services, besides Amateur Radio, will be harmed by the resulting interference. The laws of physics are the laws of physics. If Access BPL causes interference to one radio service, it is certain to cause interference to others, others which the Commission may find more deserving of protection than it does Amateur Radio. The fact that others, in addition to amateurs, are concerned about the effects of Access BPL interference; is born out in the comments of Boeing, Aeronautical Radio Incorporated (ARINC), the Association of Maximum Service Television (MSTV), the Society of Amateur Radio Astronomers (SARA), Ship Com LLC, the Missouri State Highway Petrol,

the Association of Public Safety Communications Officials-International Inc. (APCO) and even PEMA, now a part of the Department of Homeland Security. All caution against authorizing Access BPL systems to use portions of the radio spectrum employed in their communications. Some of the communications these organizations refer to, involve safety-of-life and/or homeland security situations. The Commission may be ready ignore what hams say in this matter, but it seems impossible that it would turn a deaf ear to the pleas of these other vital services. SMIRK, believes that, if does, it will be committing a major disservice to the Nation and putting its people at risk.

4. SMIRK further points out that, even if Access BPL does not occupy frequencies of 50 MHz and higher, its operation is nevertheless likely to cause interference to 6 meter operators. Such interference will occur as a result of harmonics and mixing products being present in the band, as well as at higher VHF frequencies, including the aircraft assignments at 108 MHz and above. Though no test data is available to quantify the strength of such harmonics and mixing products, common radio theory assures that they will be present at some level. SMIRK urges the Commission to thoroughly investigate such sources of interference before proceeding to authorize Access BPL.
5. Access BPL advocates claim that various adaptive features of their systems will prevent interference. Here, they are obviously responding to the large volume of comments the Commission has received from licensed amateurs. They say that such features will mitigate interference to amateurs by shifting frequency when an amateur signal is detected. SMIRK rejects such arguments for various reasons.

First, most 6 meter operators, as well as many other amateurs, spend much of their time listening. Obviously, Access BPL systems cannot detect listeners. So, the system will continue to operate and interfere with listening activities. The other reason we see no value in this approach, involves the aforementioned harmonics and mixing products. Detecting a signal and changing frequency will not be effective in eliminating interference caused by signals at frequencies removed from the bands the Access BPL systems are actually employing.

6. For the reasons stated, SMIRK urges the Commission to thoroughly investigate the potential interference threats posed by Access BPL, including conducting tests and evaluations of its own – not merely depending on the promises of the Access BPL proponents. These tests and evaluations should include interference which might result from harmonics and mixing products. It is only in this way that it (the Commission) will serve the needs of this Country, a duty it is mandated to perform.

RESPECTFULLY SUBMITTED,

William A. Tynan, W3XO, SMIRK # 800

President

1054 Indian Creek Loop

Tierra Linda Ranch

Kerrville, TX 78028

E-mail: [btynan@omniglobal.net](mailto:btynan@omniglobal.net)

June 22, 2004