

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

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In the Matter of )

Amendment of Part 15 regarding new requirements )  
and measurement guidelines for Access Broadband )  
over Power Line Systems )

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ET 04-37

**COMMENTS OF  
THE INFORMATION TECHNOLOGY INDUSTRY COUNCIL**

**INTRODUCTION**

The Information Technology Industry Council (ITI) submits these Comments in response to the Commission's Notice of Proposed Rulemaking in ET Docket No. 04-37, *Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems*.<sup>1</sup> The Information Technology Industry Council (ITI) represents the top U.S. providers of information technology products and services. ITI is the voice of the high tech community, advocating policies that advance industry leadership in technology and innovation, open access to new and emerging

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<sup>1</sup> This docket supersedes ET Docket No. 03-104, Carrier current Systems including Broadband over Power Line. Public Notice, DA 04-760, released March 23, 2004.

markets, support e-commerce expansion, protect consumer choice, and enhance the global competitiveness of its member companies.

ITI has consistently advocated that the federal government speed the deployment of affordable high-speed broadband connections to the Internet.<sup>2</sup> In ITI's view, this is an important public policy goal, underscored by President Bush's recent announcement setting a goal of having broadband connectivity to all Americans by 2007. ITI therefore welcomes this opportunity to address some of the specific proposals for a broadband platform using power lines.

In its Notice, the Commission correctly identified that spurious emissions from power lines create a potential interference issue to incumbent spectrum users. ITI agrees that the focus of the proposed rules must be directed to minimizing the likelihood of harmful interference to radio services. ITI has reviewed the proposed rules for operational requirements for Access BPL and has no significant changes to the rules as proposed at this time. However, we note that the National Telecommunications and Information Administration (NTIA), on behalf of federal spectrum users, has recently submitted a lengthy interference study. ITI looks forward to reviewing the NTIA contribution and evaluating its conclusions and implications for Access BPL.

In this response, ITI urges the Commission to carefully review and modify proposed equipment test procedures to minimize the potential for harmful interference. We offer a few minor modifications to the proposals made by the Commission in the Notice, and we will review the proposals made by NTIA in their submission on Part 15 matters. In addition, while ITI supports the Commission's proposal to regulate Access

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<sup>2</sup> See ITI's 10-Point Plan to Bring Broadband to More Americans  
<[http://www.itic.org/policy/brdbnd\\_020502.pdf](http://www.itic.org/policy/brdbnd_020502.pdf)>.

BPL under Part 15 rules, ITI recognizes that doing so may create inherent reliability issues for BPL services that are subject to interference from licensed and unlicensed devices.

### **DISCUSSION**

As ITI noted in its comments in ET Docket No. 03-104, broadband over power lines (“Access BPL”), if implemented correctly, could offer an effective last mile solution to bring the benefits of high speed Internet access to Americans, particularly those in rural and isolated areas who do not have an affordable or alternative means to connect to the online world. In its Notice, the Commission proposed a more ubiquitous deployment of Access BPL. Deployment of this new technology in more populated areas could well raise interference concerns with various radio services and devices. The Commission was therefore correct in its Notice to focus on rules that would minimize the potential for harmful interference.

ITI has indicated that it supports the Commission’s preference for examining actual occurrences of interference from unlicensed devices with specific remedies for those instances. We continue to believe that this spectrum approach works well in the United States, as it has resulted in the widespread proliferation of advanced technology products while fully protecting the rights of licensed service providers.

While ITI supports the accelerated deployment of enhanced broadband systems, we also recognize that there are significant and technically well-founded concerns over radiofrequency interference caused by Access BPL. For example, we note that on April 27, 2004, the National Telecommunications and Information Administration (NTIA) filed

an extensive study on the potential interference caused by Access BPL to government frequencies between 1.7 and 80 MHz.<sup>3</sup> Among other things, NTIA's study seeks protection for 41 frequencies licensed for federal government use, as well as changes to the Part 15 rules to ensure that BPL equipment is accurately tested and measured. While ITI has not yet had time to digest the lengthy NTIA report, the recommendations made by NTIA on behalf of federal spectrum users make clear that the Commission will need to carefully review how Access BPL might contribute to harmful interference to incumbent users, both licensed and unlicensed.

In addition, as mentioned in our response to last year's Notice of Inquiry on BPL, ITI recommends that the Commission further examine the cases of BPL testing and trials in Europe and Japan and assess what lessons might apply to deployment in this country. In particular, we continue to have concerns that BPL applications that utilize medium voltage overhead power lines may create large antennas with potentially significant radiated emissions and interference that could propagate throughout communities. In addition, further interference complications may arise as more electronic devices are attached to cables that conduct BPL signals. Once again, ITI welcomes the involvement of all interested parties as a positive approach towards achieving voluntary and consensus-based solutions in addressing these concerns.

In addressing recommendations to amend equipment testing procedures, ITI offers the following specific changes to the proposed Access BPL rules: (As noted

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<sup>3</sup> *Potential Interference from Broadband Over Power Line (BPL) Systems to Federal Government Radiocommunications at 1.7 – 80 MHz*, NTIA Technical Report 04-413, filed April 27, 2004. This is part one of a two-part study. The second phase of NTIA's study will assess interference risks due to aggregation and ionospheric propagation of interfering signals from BPL signals, and continue to refine the proposals and analysis contained in phase one.

above, we will also be reviewing NTIA's recommendations for Part 15 changes and may have further comments once that review is complete.)

*Test site measurement rule.* The proposal for General Measurement Principles in Appendix C, proposes a test site measurement rule that ITI believes is unclear.

Currently the text reads as follows:

**Measurements should be made at a test site where the ambient signal level is 6dB below the applicable limit.**

Based on our review, we believe the requirement should read as follows:

**Measurements should be made at a test site where the ambient signal level is at least 6dB or more below the applicable limit.**

*Look to lab testing for the future.* The Commission did not propose at this time any test procedure to allow testing in a lab environment.<sup>4</sup> Testing in a lab permits testers to obtain repeatable results in a controlled environment. This is not possible in most field tests. We encourage the Commission to revisit this issue at a later time once adequate data has been compiled and the test method has been properly evaluated by the Commission and industry.

In addition to these suggested modifications to test procedures, ITI offers comments on the proposed conducted emissions limits rule, and on the proposed database.

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<sup>4</sup> In 1997, Cisco demonstrated that on site testing was not required for "Leaky Coax antennas for use with Part 15 devices". Ref FCC IS: LOZ102025a and CE Magazine article August 1998. This test procedure was modified for Homeplug to evaluate for use and was evaluated by the FCC Lab.

Conducted emissions limits. Paragraph 38 of the Notice proposes to exempt Access BPL systems from the existing conducted emission limits of 47 CFR §15.107(c) due to measurement safety concerns because they are installed on power lines that can carry 1,000 volts to 40,000 volts. The Notice proposes to add a new §15.107(e) that states "the limits shown in paragraphs (a) and (b) of this section shall not apply to BPL systems. Any BPL hardware which receives input power from the low voltage 120 volt power system must comply to the limits of 47 CFR §15.107(a) or (b). ITI suggests that Commission modify the text of proposed §15.107(e) to:

(e) The limits shown in paragraphs (a) and (b) of this section shall not apply to Access BPL systems, except for any components that connect to the low voltage power system.

Database for Access BPL information. Paragraph 43 of the Notice proposes the establishment of a publicly accessible database for BPL information to ensure the location of BPL systems and their operating characteristics are identified. ITI supports this proposal. However, in light of present homeland security requirements, ITI suggests the Commission evaluate access to the database, which would contain sensitive public infrastructure information. ITI also proposes that companies intending to provide Access BPL should publicly post information relating to when and where they plan to perform testing. Doing so will allow operators of licensed services to more accurately gauge potential interference from BPL.

Part 15 Challenges. Under the Commission's proposal, Access BPL, as an unlicensed device under §15.5(b), is subject to interference from licensed or unlicensed intentional, unintentional, or incidental radiators. ITI supports this classification, but also recommends the Commission act to ensure that consumers of this service are

cognizant of its implications. For example, in order to operate effectively, Internet-based services such as voice over Internet protocol (VOIP) require a low threshold of interference and would suffer if interference reached significant levels. In addition, the Commission proposes specific operational requirements for Access BPL including adaptive interference mitigation techniques and a ‘shut-down’ feature for units found to cause harmful interference. These requirements would also pose reliability challenges for services carried over Access BPL.

While consumers of Access BPL may be informed that under Part 15 their service must accept interference from other devices, actual occurrences of interference from other Part 15 devices may also create implementation challenges for incumbent spectrum users and for Access BPL providers. In seeking remedy, BPL providers may look to the Commission to determine which of the Part 15 devices should take precedence (even though by rule, all must accept interference). ITI advises the Commission to carefully consider how the parties might resolve competing uses of unlicensed spectrum.

## **CONCLUSION**

ITI applauds the efforts of the Commission to identify and promote new and innovative approaches to bringing broadband access to all Americans. Taking advantage of an existing ubiquitous infrastructure, BPL offers the possibility of a new broadband access platform, one that might be most significant for unserved consumers in rural and remote areas. At the same time, ITI supports a balanced approach to this technology’s deployment and use. Ensuring the success of Access BPL will require further examination of interference issues from both technical and policy perspectives.

Addressing such issues in the early stages of Access BPL deployment will provide greater certainty for industry and consumers and help this promising technology reach its potential.