

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
)	
Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems)	ET Docket No. 04-37
)	
To the Commission:)	

Via the ECFS

COMMENTS OF IEEE-USA

IEEE-USA respectfully submits its comments in the above-captioned Proceeding (“the NPRM”).

These comments were developed by the IEEE-USA Committee on Communications and Information Policy and represent the considered judgment of a group of IEEE-USA members with expertise in the subject field.

IEEE-USA is an organizational unit of The Institute of Electrical and Electronics Engineers, Inc., created in 1973 to advance the public good, while promoting the careers and public-policy interests of the more than 235,000 electrical, electronics, computer and software engineers who are U.S. members of the IEEE, and as such is an interested party in this Proceeding.

INTRODUCTION

1. We note that the instant NPRM contemplates new rules and requirements for Access BPL systems that do not currently exist, but for which there is no conclusive evidence of technical feasibility due to potential interference to and from currently licensed users.
2. IEEE-USA is therefore concerned that the Commission is, in the instant Proceeding, considering rules that could prematurely promote the widespread proliferation of Access BPL.
3. We therefore, strongly urge the Commission to approach this matter with a more cautious and measured approach.
4. Most importantly we have concerns about the ability of Access BPL technologies to adequately protect the many and varied licensed users of the high frequency (“HF”) spectrum – *including many uses that are critical to national security, homeland defense, and emergency and disaster communications* – from serious and widespread harmful interference.
5. Additionally, we have concerns that Access BPL systems operating in the HF spectrum will also be subject to interference *from* the licensed users of the HF spectrum, potentially rendering the solution a less reliable means of delivering the quality of broadband service than the American public both deserves and will increasingly demand.
6. Finally, we are disappointed that the Commission has, despite requests from Members of Congress and interested parties, chosen to proceed with this NPRM before the release of a report from NTIA on the results of a rather extensive program of field measurements they have been conducting regarding the interference potential of Access

BPL. We believe that the information contained in this report would have, *had it been available sufficiently before the comment deadline in this Proceeding to permit a thorough review and analysis of its contents*, been a valuable resource for the public in the formulation of its comments.

INTERFERENCE FROM ACCESS BPL TO LICENSED USERS

7. As stated at (4) above, we have concerns about the ability of this technology to adequately protect the many and varied licensed users of the high frequency (“HF”) spectrum.

8. The HF spectrum that Access BPL proponents propose to use *on an unprecedented scale* for unlicensed, unintentional radiator, “carrier current” Access BPL systems is a unique, irreplaceable global resource that deserves special protection. Only in this narrow sliver, relatively speaking, of the electromagnetic spectrum is global ionospheric propagation of radio signals (without reliance on vulnerable infrastructure such as satellites, terrestrial repeaters, etc.) possible.

9. Thus, this portion of the spectrum is “home” to many critical services – including military, homeland defense, emergency and disaster, aeronautical and maritime mobile, and other vital services – services whose needs and mission requirements cannot be met in any other portion of the spectrum.

10. Furthermore, the existing radiated emission limits in the Commission’s rules for this portion of the spectrum were developed many years ago, taking into consideration a limited number of localized point source radiators, *not in taking into account systems such as Access BPL that are intended to employ what are, in fact, geographically widespread distributed antenna systems that radiate at the prescribed levels virtually*

everywhere they exist. Thus, the current limits are, in our opinion, inadequate to afford the necessary level of protection to licensed uses of the HF spectrum. Therefore, we are concerned that if Access BPL were deployed widely, it would pose an unacceptable risk of seriously disrupting those many critical services that can only be accommodated in the HF spectrum because of the unique propagation characteristics of that portion of the spectrum.

11. We are concerned that the Commission’s proposals for “interference mitigation” in the NPRM are inadequate in terms of being effective or resulting in timely resolution of interference problems in practice.¹

12. Therefore, IEEE-USA believes that additional studies are required to evaluate the efficacy of any proposed interference mitigation techniques.

13. As stated at (5) above, we also have concerns that Access BPL systems operating in the HF spectrum would also be subject to interference *from* the licensed users of the HF spectrum and therefore may be less reliable than other options for the delivery of broadband services.

14. While not sufficiently rigorous to serve as the basis for final conclusions, we are aware of field experiments conducted by Amateur Radio Research and Development Corporation (“AMRAD”) that indicate that Access BPL systems are subject to disruption of service by relatively low-powered transmissions by licensed users of the HF spectrum.²

¹ We would observe that, for many of the critical HF communications services at risk, “timely” means “NOW!” not “tomorrow” or “next week.”

² See, “*Additional Reply Comments by the Amateur Radio Research and Development Corporation (AMRAD)*”, filed with the Commission in its NOI (ET Docket No. 03-104) at: http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6515383154

15. Additionally, as the Commission points out in the NPRM, Access BPL systems operating under Part 15 of the Commission's rules would be required to cease operation if they cause interference to licensed users

**SETTING COMMENT DEADLINES ON THE NPRM PRIOR TO
REASONABLE PUBLIC ACCESS TO THE NTIA REPORT HAS PLACED THE
PUBLIC AT A DISADVANTAGE IN FORMULATING ITS COMMENTS IN
THIS PROCEEDING**

16. As stated above at (6), we are disappointed that we, and the public at large, have not had the opportunity to adequately review and analyze the material in NTIA's report on its study of Access BPL and its interference potential prior to the comment deadline for the NPRM, despite the fact that at least one Member of Congress and other parties asked the Commission to await the results of NTIA's studies before proceeding with the instant NPRM.

17. We believe that a thorough review and analysis of the data in the NTIA report will provide valuable information that interested parties should have had an opportunity to consider in the formulation of their initial comments in this Proceeding.³

18. In light of this, we strongly urge the Commission to extend the Reply Comment deadline by *at least 30 days, and preferably 45 days*, beyond its current date to afford interested parties sufficient time to adequately review and consider the content of the NTIA report and other technical studies that we expect to be submitted in the initial comment phase as they formulate their reply comments.

³ The NTIA report has only become publicly available a mere five days (only two business days) prior to the deadline for comments set by the Commission – clearly an insufficient amount of time to adequately review, digest, and consider the implications of the material in such a voluminous report.

SUMMARY AND CONCLUSION

19. IEEE-USA has serious concerns about interference *to* the licensed users of the HF spectrum, as well as concerns about interference to Access BPL systems *from* those licensed users and the potential impact of such interference on the ultimate reliability of Access BPL as a means of delivering broadband services to users.

20. The current radiated emission limits in the Commission's rules may be inadequate to afford the necessary level of protection to licensed users of the HF spectrum from Access BPL, which, as pointed out above, because of its very nature presents a far higher interference risk than the types of devices considered when those limits were set.

21. We reiterate the view that additional studies are required to evaluate the efficacy of any proposed interference mitigation techniques. The Commission should not prematurely promulgate rules in the absence of such proof.

22. We also note that, should Access BPL systems cause interference to the licensed users of the HF spectrum they use on an unlicensed basis, those systems will be *required* to cease operations unless/until such interference can be remedied. This poses a risk of unpredictable losses of service to users.

23. Finally, since the NTIA report has just become available a few days before the initial comment deadline in this Proceeding, we ask the Commission to extend the deadline for reply comments by *at least 30 days, and preferably 45 days*, beyond the current deadline of June 1, 2004, to allow interested parties sufficient time to review and consider the content of the NTIA report, *and other technical studies that we expect to be submitted in the initial comment phase*, in the formulation of their reply comments.

Respectfully submitted,

/s/

John W. Steadman, P.E., Ph.D.

President

IEEE-USA

1828 L Street, N.W.

Washington, DC 20036

Please address correspondence relating to this document to:

Carl R. Stevenson

Member-at-Large

IEEE-USA CCIP

4991 Shimerville Rd.

Emmaus, PA 18049

carl.stevenson@ieee.org