

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

In the Matter of)
)
Inquiry Regarding Carrier Current) ET Docket No. 03-104
Systems, Including Broadband Over)
Power Line Systems)
)
To: The Commission)

VIA THE ECFS

REPLY COMMENTS OF CARL R. STEVENSON – WK3C

I, Carl R. Stevenson, WK3C, hereby respectfully submit these Reply Comments in the above-captioned Proceeding.¹

I am the holder of an Amateur Extra Class license issued by the Commission and have been licensed as an amateur radio operator by the Commission for over 25 years. Additionally, I have been an RF Systems Engineer for over 32 years.

I am an interested party in this Proceeding and I appreciate the opportunity to offer these timely filed Reply Comments.

¹ Notice of Inquiry (the Notice), FCC 03-100, released April 28, 2003, 68 Fed. Reg. 28182; corrected 68 Fed. Reg. 32720.

INTRODUCTION

1. I have reviewed, and fully support and agree with, the extensive comments and technical analysis submitted by the American Radio Relay League (“ARRL”). Based on my many years of experience as an RF Systems Engineer, I can find no flaws in ARRL’s technical analysis.
2. From the body of record in the instant Proceeding, it appears that ARRL is the only commenter to provide a thorough and compelling technical analysis of the true interference potential of Access Broadband over Power Line (“Access BPL”).
3. Comments from the advocates of Access BPL are essentially devoid of meaningful technical analysis or sharing studies to support their assertions that Access BPL will not present a significant source of interference to the Amateur Radio Service (“ARS”) and other licensed services operating in the MF, HF, and low VHF bands, including U.S. Government systems critical to the Department of Defense and the Department of Homeland Security.
4. Instead, it appears that the proponents of Access BPL seek not only increased levels of allowable radiated emissions, but also to “wave their hands” proclaiming that “no interference will occur” and effectively seeking to shift the burden of proof of interference onto those incumbents who would be the victims of interference.

THE PROPONENTS OF ACCESS BPL SEEK TO TURN THE REGULATORY SITUATION “INSIDE-OUT”

5. Since the ARS, U.S. Government users, and other incumbent users of the spectrum that Access BPL seeks to use are all licensed services, what Access BPL proponents seek (and the Commission seems inclined to actively promote) is a totally contrary to regulatory reason and the Commission’s obligation to its licensees.

6. Because the stakes are so high, the proponents of Access BPL must be compelled to prove, beyond any reasonable doubt, with solid, technically supportable sharing studies that their systems will not cause interference before the Commission even considers allowing the deployment of such systems, let alone before the Commission changes to its rules to facilitate and encourage the deployment of such systems.

MY PERSONAL OBSERVATIONS CONFIRM THE TECHNICAL ANALYSIS AND FIELD TESTS PERFORMED BY ARRL – ACCESS BPL CAUSES DISASTROUS INTERFERENCE THROUGHOUT THE MF/HF/LOW VHF SPECTRUM

7. I reside near one of the “pilot” Access BPL systems, operated by PP&L in the Emmaus, Pennsylvania area. While I have to admit that I have not yet experienced significant interference from the current deployment at my own home location, that is clearly because I am fortunate enough to be far enough away from the pilot area and the deployment is, at least at this time, modest.

8. I have, however, visited the pilot area with a battery-powered portable transceiver capable of operating on all amateur bands from 1.8 MHz to 450 MHz and find the interference from even this modest Access BPL “pilot” deployment in the MF, HF, and lower VHF bands to be horrifyingly intense.

9. I literally shudder to consider the impact on my operations of a large-scale deployment, particularly one including the distribution lines in my immediate area.

10. This is something that is of particular concern to me, because I purchased the property where I live and have established my (licensed) amateur station specifically because it was an ideal hilltop location in a rather rural area with low man-made noise.

11. To date, I have made an investment of approximately \$500,000 for this property and the construction of the improvements thereon.

12. That investment decision that was made in very large part because of the existing and anticipated future RF noise characteristics of the area, and reliance on the Commission's obligation to protect incumbent licensed services from harmful interference – a reliance that could reasonably be construed as affording an expectation of the ability to pursue amateur radio operations, both now and in my retirement years, without being subject to intense, pervasive “spectrum pollution” – an expectation that Access BPL would totally destroy, because Access BPL truly is intense, pervasive spectrum pollution.

13. Should the Commission ignore its obligation to protect licensed services, including the ARS, from the RF interference plague that Access BPL represents, it will prejudice my interests as a Commission licensee, and the interests of many hundreds of thousands of other Commission licensees in multiple services, severely.

ACCESS BPL IS A VERY POOR CANDIDATE FOR THE DELIVERY OF BROADBAND SERVICES

14. In addition to the inherent interference disaster that access BPL represents to incumbent licensed services, Access BPL systems will likely be highly vulnerable to interference and significant performance degradations from the legitimate, legal activities of incumbent, licensed users of the spectrum that Access BPL proponents seek to use. This, in itself, bodes against a favorable business case for such enterprises – something that the Commission should take into consideration before even considering opening this “Pandora’s box.”

15. The Commission should not (effectively) promote and champion systems that are so potentially vulnerable as a means of delivering broadband services to the public, as the public needs and deserves robust and reliable means of receiving such services – something that appears highly questionable in the case of Access BPL.

ACCESS BPL IS SIMPLY A BAD IDEA

16. Access BPL is simply a bad idea. There is no other way to characterize it.
17. The electric distribution system was not designed (or intended) to carry broadband data signals. The distribution wiring will – as ARRL’s technical studies, ARRL’s field tests, and my own personal observations of interference levels in the Emmaus, Pennsylvania “pilot” area all confirm conclusively – radiate exorbitantly high levels of interference across and throughout the entire MF and HF bands, and well into at least the low VHF range.
18. Given that cable TV systems “pass” something in excess of 97% of US households, telephone service is virtually ubiquitous (though TELCOs could stand some prodding from the Commission to make true broadband services more widely available), and wireless broadband delivery systems in the lower microwave bands are far better suited to broadband delivery, Access BPL is an entirely unnecessary, and potentially devastating, alternative that is not necessary to provide for the needs of the public or to assure adequate competition.

THE COMMISSION SHOULD NOT CHAMPION BAD IDEAS, BUT SHOULD INSTEAD FOCUS ON PROMOTING AND FACILITATING THE EXPANSION OF THE (SEVERAL) EXISTING, PROVEN, AND NON-INTERFERING MEANS OF DELIVERING BROADBAND SERVICES TO THE PUBLIC

19. I would respectfully submit that the Commission should, instead of championing and promoting such a clearly bad idea, spend its resources more actively promoting the expansion of existing, proven broadband delivery systems such as cable modem, xDSL, and wireless alternatives such as IEEE 802.11x and IEEE 802.16x that will not cause widespread interference to incumbent licensed services.

20. This course of action would serve the public interest far better than promoting an unneeded alternative such as Access BPL that will, quite demonstrably, devastate a huge swath of very important spectrum that is already occupied by large numbers of licensed incumbents – spectrum that uniquely provides long-range ionospheric propagation capabilities that are vitally important to the public service and disaster communications services provided by the ARS, as well as to the other incumbent users, including important U.S. Government systems.

ELECTRIC UTILITIES SHOULD FOCUS ON THEIR CORE BUSINESS, RATHER THAN TRYING TO EMPLOY AN OUTDATED, INAPPROPRIATE INFRASTRUCTURE FOR PURPOSES FOR WHICH IT WAS NEVER INTENDED

21. Given the recent, massive blackout throughout the northeastern U.S. and parts of Canada, it seems abundantly clear that the electric utilities should be focusing their efforts and their investments on improving the robustness of their electric distribution infrastructure, rather than chasing after new business ventures in unrelated areas at the expense of incumbent licensees.

22. Historically, electric utilities have been notoriously incompetent and unresponsive at responding to and correcting complaints of interference from even simple, spurious sources of interference caused by their distribution systems, such as arcing across broken insulators and other similar situations.

23. Now, they want to transmit RF energy over inappropriate media (their power transmission system) in ways that clearly will cause horrendous interference over huge areas, all the while claiming that such interference will not occur, and implying that if and when interference does (and it will, inevitably) occur, they will be “Johnny on the spot” to rectify the situation.

24. In light of the utilities’ overall past performance in comparatively trivial cases of interference, this implied claim strains credibility well beyond the breaking point.

SUMMARY AND CONCLUSION

25. For all of the reasons outlined herein, I respectfully submit that the Commission must inevitably arrive at the only logical, technically sound conclusion possible – that the deployment of Access BPL constitutes an extraordinarily unacceptable threat of devastating interference of unprecedented proportions to its licensed services throughout the MF, HF, and low VHF spectrum.

26. I therefore respectfully request that the Commission TERMINATE this proceeding and issue a Declaratory Ruling specifically prohibiting the deployment of Access BPL systems under any Part of the Commission's rules.

Respectfully submitted,

A handwritten signature in blue ink that reads "Carl R. Stevenson". The signature is fluid and cursive, with the first name "Carl" being the most prominent.

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