

North American Shortwave Association

**Before the
Federal Communications Commission
Washington, D.C. 20554**

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

REPLY COMMENTS ON NOTICE OF PROPOSED RULE MAKING (NPRM)

June 22, 2004

The **North American Shortwave Association (NASWA)** represents the interests of people in the United States who rely on free access to international news and cultural programming via short-wave radio broadcasts.

NASWA filed its original comments on this NPRM on May 3, 2004. In those comments NASWA demonstrated why the FCC's proposed procedural rule changes to mitigate BPL interference would be impractical and ineffective for protection of the international short-wave broadcasting service.

The technical feasibility of active, real-time interference mitigation has also proven ineffective in the weeks since May 3. Alliant Energy in Cedar Rapids, Iowa, using Amperion BPL technology, has been unable to eliminate harmful HF interference despite their best efforts since March to notch out interfering signals. A similar interference condition has been reported in the Raleigh, NC test area. The best efforts of these BPL providers did not eliminate harmful interference. The interference mitigation techniques, that are the basis of this NPRM, do not always work.

NASWA warned in its comments that it was likely all HF spectrum users would request special protection by the FCC from BPL interference. As predicted, APCO, The Association of Public-Safety Communications Officials-International, Inc.; ARRL, The American Radio Relay League; NAB, The National Association of Broadcasters; NAS, The National Academy of Sciences; NASB, The National Association of Shortwave Broadcasters; NASWA, The North American Shortwave Association; NTIA, The National Telecommunications and Information

Administration; and several other organizations requested protection of particular frequencies and frequency bands or geographical regions (quiet zones) by BPL signals.

NASWA suggested in its original comments that BPL should be confined to frequencies above 30 MHz. NASB supported that idea. NASWA further suggested that vacant VHF TV channels would be a place where BPL could co-exist with TV broadcasting.

Organizations representing public safety agencies noted that many state and local police and fire services still use “low band” VHF allocations between 30 and 50 MHz and requested that BPL signals be prohibited from using this range. The NAB expressed concern that BPL signals would interfere with VHF TV reception and requested that BPL signals be prohibited from using frequencies above 50 MHz.

Thus, nearly all frequencies between 2 and 80 MHz would be precluded from use by BPL if the FCC were to satisfy the concerns of all entities requesting special protection. Regardless of what the FCC decides to do in response to these requests for special protection, it is unlikely that all entities will be happy with the result. The FCC is thus forced to adopt rules that will do the least harm to existing services.

In NASWA’s opinion, that least-harm solution would be for BPL to be required to use vacant VHF TV channels under carefully engineered criteria that would protect co-channel and adjacent-channel TV broadcasters. The current TV channel allocations were developed in the 1940’s when TV receivers were less selective. In each major market adjacent channels were left vacant to accommodate the 1940’s state-of-the-art receiver selectivity. Selectivity of today’s receivers is much improved. Today’s cable-ready TV receivers require much better adjacent channel selectivity because cable TV systems use all VHF channels.

BPL signals operating on vacant “over-the-air” TV channels would not be expected to affect cable TV subscribers. There are strict FCC rules limiting unintentional radiation by cable systems. The same tight shielding that prevents unintentional radiation from cable TV systems also protects cable TV systems from interference from outside emitters sharing the same

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frequencies. Responsible cable TV operators survey their physical plant periodically looking for problems. Unintentional radiation would make CATV program products freely available to nearby TV receiving antennas and would limit the ability to sell cable service.

NASWA was pleased to see the release of NPRM ET Docket 04-186 on May 25, 2004 soliciting comments on how wireless broadband services could use vacant VHF and UHF TV spectrum. If wireless broadband services that intentionally radiate can co-exist with broadcast TV signals, then surely BPL signals with some unintentional radiation can also co-exist with VHF TV broadcasting.

Because both BPL and broadband wireless services would use robust, adaptive, digital technology, it is likely they could also co-exist on the same otherwise-vacant, TV spectrum. Coordination will likely be required, but with proper engineering, frequency reuse should be achievable. Additional study is suggested.

NASWA urges the FCC to consider both of these NPRM's together. The comments the Commission receives on the feasibility of using vacant VHF TV channels for wireless broadband services will be directly relevant to whether BPL on vacant TV channels can co-exist with TV and/or broadband wireless signals. If the outcome of the NPRM ET Docket 04-186 process shows broadband wireless can use vacant TV channels, the FCC should mandate that BPL services share these same vacant frequencies and vacate all frequencies between 2 and 54 MHz.

Respectfully submitted,

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