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November 5, 2009

Via ECFS Filing Only

Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
445-12th Street, S.W.
Washington, D.C. 20554

**Re: Notice of Oral Ex Parte Presentations, ET Docket 04-37;
GN Dockets 09-47, 09-51 and 09-137.**

Greetings.

On Tuesday, November 3, 2009, the undersigned, representing ARRL, the National Association for Amateur Radio (ARRL), met with staff members of the Commission's Broadband Team and the Office of Engineering and Technology. Attending on behalf of the Broadband Team was Mr. Byron J. Neal. Attending on behalf of the Commission's Office of Engineering and Technology were Ms. Anh Wride, Mr. Bruce Romano, and Mr. Alan Stilwell.

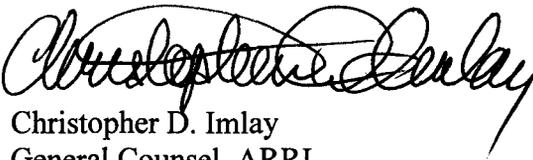
Attending on behalf of ARRL was the undersigned, General Counsel for ARRL.

The purpose of the meeting was to discuss a possible regulatory approach for Broadband over Power Line (BPL) systems, post-remand from the United States Court of Appeals for the District of Columbia Circuit; and the interference potential of BPL systems under the present Part 15 rules; and the definition of Broadband for purposes of the National Plan. The discussion is summarized as set forth in the attached memoranda, copies of which were delivered to the Commission's staff members at the meeting.

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Questions concerning the foregoing ex parte statement or the attachment hereto should be addressed to the undersigned counsel.

Yours very truly,



Christopher D. Imlay
General Counsel, ARRL

Attachment

**BROADBAND OVER POWER LINES (BPL)
ET DOCKET 04-37
INTERFERENCE TO LICENSED RADIO SERVICES
PRESENTATION BY ARRL, THE NATIONAL ASSOCIATION
FOR AMATEUR RADIO**

▶ *Request for Further Comment and Further Notice of Proposed Rule Making*, FCC 09-60, 24 FCC Rcd. 9669, 74 Fed. Reg. 42631, released July 17, 2009.

▶ The Commission's rules governing Access BPL were adopted in 2004 and affirmed (with changes that made the interference potential worse) in 2006. The rules are completely inadequate to protect licensed radio services, especially those operating between 3 and 30 MHz, from harmful interference. The Office of Engineering and Technology knew this, and withheld from the public technical studies conducted by the OET Laboratory Staff which concluded that BPL posed a serious interference threat to, among others, the Amateur Radio Service.

▶ The rules permit operation of BPL systems whose interference potential to Amateur high-frequency operation from Access BPL (unless no use is made of Amateur allocations), is essentially 100 percent at substantial distances from the power lines.

▶ BPL Interference cases were unresolved by the Enforcement Bureau for years at a time, despite fully documented complaints of actual, harmful interference.

▶ The continued denial by the Commission of the obvious and substantial interference potential of Access BPL has served neither the Amateur Service nor BPL advocates well. Certainly, the public has not benefited from it, because the number of BPL deployments, never significant, is now reduced substantially. The Commission's most recent report, "*High Speed Services for Internet Access*" shows no more than 5,000 BPL customers in the entire country. That number has dropped since the previous report.

▶ This proceeding represents a *third opportunity* for the Commission to advance Access BPL while minimizing the potential for harmful interference allowed by the present BPL rules. Since this proceeding was commenced, BPL technology has evolved. Second generation Access BPL modems are typically *capable* of minus 35 dB of "notching" of certain bands in the High Frequency (HF) spectrum, which is more than 10 dB better than the first generation devices, without any significant loss of throughput.

▶ In *American Radio Relay League, Inc. v. FCC*, 524 F.3d 227 (D.C. Cir. 2008), the Court of Appeals did not vacate the Commission's 2004 BPL rules (47 C.F.R. § 15.601, *et seq.*) It did, however, remand the case for further proceedings with two specific instructions:

First, it ordered that “[o]n remand, the Commission shall make available for notice and comment the unredacted ‘technical studies and data that it has employed in reaching [its] decisions’ [with respect to BPL]...and shall make them part of the rulemaking record.”

Second, the Court ordered that on remand, the Commission “shall either provide a reasoned justification for retaining an extrapolation factor of 40 dB per decade for access BPL systems sufficient to indicate that it has grappled with the 2005 studies [i.e., BPL studies conducted in Crieff, Scotland by OFCOM], or adopt another factor and provide a reasoned explanation for it.” This pertains to the rate at which radiated emissions from power lines carrying access BPL decay with distance from the power lines, and therefore the extent to which the radiated energy from the lines can interfere with licensed radio services such as Amateur Radio.

► The Commission was ordered not only to disclose the unredacted versions of certain technical studies, but also to make them “available for notice and comment.” The Court’s obvious expectation is that the Commission review the comments received, and to re-evaluate the 2004 BPL rules in light of what was revealed in the unredacted documents and those comments. This curative process ordered by the Court necessitates a zero-based review of the 2004 and 2006 BPL rules. The Commission must utilize the received comments in its re-examination of *all aspects* of the BPL rules which have been drawn into question by the late disclosure of the heretofore redacted, or completely withheld technical studies.

► The studies and the ARRL comments in response to the Further Notice justify, and ARRL expects the Commission to adopt modified rules which incorporate the two parameters of which Access BPL modems are now capable: (1) mandatory notching of all Amateur allocations by BPL systems at all times; and (2) notch depths of at least 35 dB. These two factors would be sufficient together to reduce the probability of harmful interference to the point that it would be practical to address harmful interference on a case-by-case basis. Those parameters are also achievable by present BPL technology without significant limitation on BPL deployment or performance.

► With respect to the Access BPL extrapolation factor of signal decay with distance from the power line, ARRL expects only that the Commission incorporate in the BPL rules an extrapolation factor that is consistent with valid, scientific evidence. The rules governing Part 15 point source radiators (which BPL clearly is not) have for years incorporated an assumed decay factor of 40 dB/decade of distance. This factor has always been specifically identified as “temporary” in the rules and was based on assumptions that are in fact incorrect. Based on studies cited by and submitted by ARRL in its comments, the scientifically accurate factor is neither 40 dB/decade of distance, nor 30 dB/decade of distance (as proposed in the Further Notice in this proceeding), but a lower number for the frequency band 3 to 30 MHz, closer to 20 dB/decade.

► If the Commission adopts the full time notching of Amateur allocations, and as well a scientifically valid extrapolation factor for signal decay with distance from the power lines, the Commission will have reduced the harmful interference potential of Access BPL to at least the Amateur Service, and it will at the same time have accommodated Access BPL so that whatever potential it has in the future for internet delivery or for smart grid applications can be realized without unnecessary regulatory constraint.

BROADBAND OVER POWER LINES (BPL)
GN DOCKETS 09-47, 09-51 AND 09-137
DEFINITION OF BROADBAND
PRESENTATION BY ARRL, THE NATIONAL ASSOCIATION
FOR AMATEUR RADIO

▶ ARRL is an association representative of the more than 650,000 Commission licensees in the Amateur Service residing in widely disparate environments (including rural areas). Amateurs, generally speaking, incorporate broadband in the configuration of licensed Amateur Radio stations. This unquestionably enhances the capabilities of the Amateur Service to provide public service and emergency communications. ARRL and its individual members have traditionally, and are today active participants in the development and refinement of telecommunications technology.

▶ ARRL actively participates in the Committee for Communications Policy of the Institute of Electrical and Electronics Engineers-USA (IEEE-USA CCP), which has engaged in considerable discussion of universal access to high-speed broadband networks, and in particular, broadband definitions and target goals for broadband deployment.

▶ ARRL's concern with Access BPL is with respect to its substantial interference potential and the presently inadequate Part 15 rules to address that interference potential. It has no concern with the success or failure of BPL as a broadband delivery mechanism or smart grid applications of BPL.

▶ However, ARRL is firmly of the view that it is not useful, either in the context of the Economic Recovery Act or otherwise, to promote broadband technologies that do not include the capabilities needed by individuals and businesses, whether located in urban, suburban, rural or underserved areas, today and for the foreseeable future. Therefore, the *threshold* for what constitutes "broadband" is a critical determination for all broadband delivery mechanisms.

▶ The definition of "broadband" should be premised on an absolute lower threshold, minimum *bidirectional* speed. It should not be a variable concept determined by technology and it should not be something that addresses technology today or which varies over short periods of time.

▶ It is not useful to "define in" broadband infrastructure that will be obsolete in the near term or less useful than other technologies which provide greater speeds. To do so simply perpetuates the *status quo*, where there are now adequately served and underserved areas.

▶ ARRL endorses a position statement of IEEE-USA entitled *Nationwide High Speed Broadband Data Services*, which was adopted by IEEE-USA's Board of Directors in January, 2009 based on the work of the IEEE-USA CCP.

► The definition with reference to specific bidirectional speeds, to become ubiquitous within fixed increments of time, and based on the particularly functional metric of “several channels of high resolution video” appears to ARRL to be a perfectly reasonable, objectively determinable series of “form, characteristic, and performance” indicators.

► There are two overarching goals for nationwide high-speed broadband networks: widespread availability and high performance. Both goals must be met. This, to ARRL, means the establishment of a floor for throughput of at least 20 Mb/s bidirectional speed for funding of broadband systems to be developed between now and 2014, and 100 Mb/s bidirectional speed for those systems to be implemented between 2014 and 2019. The Commission’s definition should be to encourage the technologies that can meet these goals. The IEEE-USA statement also notes that the Commission’s recently adopted definition of broadband speed is a series of tiers, starting as low as 768 kb/s. As noted in the statement, this is woefully inadequate to perform even current computing applications. The Commission’s tiered definition should be eliminated, and not used for any purpose whatsoever going forward.