

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

MAR 23 2005

Federal Communications Commission
Office of Secretary

In the Matter of)
)
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

**CONSOLIDATED OPPOSITION TO
PETITIONS FOR RECONSIDERATION**

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SUMMARY

ARRL, the National Association for Amateur Radio, also known as the American Radio Relay League, Incorporated (ARRL), submits its Opposition to the Petitions for Reconsideration filed in this proceeding by Current Technologies, LLC (“Current”), United Power Line Council (“UPLC”), and Amperion, Inc. (“Amperion”) Each seeks reconsideration of the Commission’s *Report and Order* in this proceeding in certain limited respects, and each is similar.

Each of these petitions similarly argues that the Commission should reconsider, and eliminate the requirement that BPL providers, 30 days in advance of initiating operations, post information about their planned operation to the publicly available BPL database. The rule adopted by the *Report and Order*, 47 C.F.R. § 15.615(a), would also require that, within three days of receiving that information, the BPL database operator must publish that information.

Two of the three Petitioners, Current and UPLC, additionally request that the Commission eliminate or extend the 18-month deadline (July 7, 2006), at which point Access BPL hardware must comply with the so-called “interference mitigation” requirements, including certification of the equipment. 47 C.F.R. § 15.37(l). Prior to this deadline, BPL companies can install essentially whatever equipment they wish, if compliant with the wide-open Part 15 rules, and it need never be replaced, even after the deadline, unless there is actual interference (as determined by the Commission).

Current, Amperion and UPLC each ask to be relieved of the burden of providing advance notice of commencement of operations to an otherwise undetermined group of licensed and unlicensed users of the HF and low-VHF radio spectrum who are entitled to interference protection from BPL systems. The alternative to the requirement is to allow those spectrum users to suffer interference with no advance notice or warning, and no practical ability to address the matter informally with the BPL provider. The inevitable result of the relief requested is for interference incidents to go unreported, or if reported, inefficiently addressed. The 30-day advance notice rule should be maintained.

As to the elimination or extension of the 18-month certification and compliance deadline, the Section 15.37(l) rule, which grandfathers interference-prone equipment already deficient now. To extend or delete the July 7, 2006 deadline for non-compliant BPL equipment merely encourages systems that do not incorporate any of the capabilities that the Commission touts as “mitigating” interference. Far from being a “burden without a benefit” as Current describes the present rule, it is a benefit for BPL operators now, the entire burden of which is borne by licensees such as radio amateurs who are saddled with interference from BPL systems so strong as to preclude use of entire, and often multiple, frequency bands.

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AMENDMENT OF PART 15 REGARDING) **ET Docket No. 04-37**
NEW REQUIREMENTS AND)
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LINE SYSTEMS)

To: The Commission

**CONSOLIDATED OPPOSITION TO PETITIONS FOR
RECONSIDERATION**

ARRL, the National Association for Amateur Radio, also known as the American Radio Relay League, Incorporated (ARRL), by counsel and pursuant to Section 1.429(f) of the Commission's rules [47 C.F.R. § 1.429(f)], hereby respectfully submits its Opposition¹ to the Petitions for Reconsideration filed in this proceeding by Current Technologies, LLC ("Current")², United Power Line Council ("UPLC")³, and Amperion, Inc. ("Amperion")⁴ (collectively, "the Petitioners"). Each seeks reconsideration of the Commission's *Report and Order* ("R&O")⁵ in the above referenced proceeding in certain limited respects, and each is similar. In opposition to each of the arguments of the Petitioners, ARRL states as follows:

¹ These petitions were placed on public notice February 28, 2005 (a correction was issued March 2, 2005) and published in the Federal Register on March 8, 2005 (70 Fed. Reg. 11244). Therefore, this Opposition is timely filed.
² Petition for Reconsideration of Current Technologies, LLC, ET Docket No. 04-37, dated February 7, 2005 ["Current Petition"].
³ Petition for Reconsideration of United Power Line Council, ET Docket No. 04-37, dated February 7, 2005 ["UPLC Petition"].
⁴ Petition for Reconsideration of Amperion, Inc., ET Docket No. 04-37 dated February 7, 2005 ["Amperion Petition"].
⁵ Carrier Current Systems, including Broadband over Power Line Systems, *Report and Order*, ET Docket No. 04-37, 19 F.C.R 21 265 ("Report and Order").

I. Introduction

1. Each of these petitions similarly argues that the Commission should reconsider, and eliminate the requirement that BPL providers, 30 days in advance of initiating operations, post information about their planned operation to the publicly available BPL database. The rule adopted by the *Report and Order*, 47 C.F.R. § 15.615(a), would also require that, within three days of receiving that information, the BPL database operator must publish that information.

2. Two of the three Petitioners, Current and UPLC, additionally request that the Commission eliminate or extend the 18-month deadline (July 7, 2006), at which point Access BPL hardware must comply with the so-called “interference mitigation” requirements, including certification of the equipment. 47 C.F.R. § 15.37(l). Prior to this deadline, BPL companies can install essentially whatever equipment they wish, if compliant with the wide-open Part 15 rules, and it need never be replaced, even after the deadline, unless there is actual interference (as determined by the Commission).

3. Although each of these Petitioners objects to the only two interference mitigation requirements that have any substance whatsoever in terms of interference to licensed Amateur Radio operators, all take the opportunity to unctuously commend the Commission on the remainder of the Access BPL rules adopted in the *Report and Order*. The Petitioners claim vacuously that the rules will promote BPL while “protecting licensed users from interference.” ARRL is constrained once again to note that the Commission has not adopted any rules that will protect licensees in the Amateur Service from interference from BPL systems. ARRL has demonstrated as much in its Petition for Reconsideration, and its conclusions are based on extensive, objective laboratory tests and field measurements, all of which are consistent with the field measurements and technical findings of the National Telecommunications and Information

Administration (NTIA).⁶ Furthermore, based on actual interference cases involving BPL systems operated by, among others, Amperion, which have generally proven impossible to resolve,⁷ any reasonable analysis of BPL leads to the conclusion that the rules adopted in the *Report and Order* are woefully inadequate in terms of interference prevention. There is a need to improve them in that respect, not to further diminish the obligations of BPL facilities to mitigate interference.

II. The Commission Should Not Eliminate the Requirement for 30 Days' Advance Notice of BPL Service Initiation

4. The Petitioners' request to eliminate the 30-day advance notice requirement for the initiation of BPL installations is unwarranted and should not be granted. The Commission adopted Section 15.615(a) as a measure to enable identification of RF radiation emanating from BPL-carrying power lines, and mitigation of interference caused thereby. Elimination of the 30-day rule would contravene the intent of Sections 301 and 302 of the Communications Act to avoid interference *ab initio* as opposed to attempting to resolve it *post hoc*⁸ and harms the Commission's attempt to achieve this goal.

5. The Petitioners' main argument in support of eliminating the 30-day requirement revolves around the purported competitive harm caused by allowing other broadband providers access to BPL providers' business plans for deployment. In effect, the argument is that if BPL systems have to provide information indicating that they are about to start up operations in 30

⁶ See, *Potential Interference from Broadband over Power Line (BPL) Systems to Federal Government Radiocommunications at 1.7-80 MHz*, NTIA Technical Report 04-413 (Phase 1 Study) released April 27, 2004.

⁷ An example of this is the Irving, Texas BPL system, which has been causing harmful interference to Amateur Radio stations since prior to July, 2004 at distances up to a mile from the BPL overhead lines, using Amperion equipment. Unresolved complaints have been pending with respect to this system since November of 2004.

⁸ In *Low Power Communication Devices*, 13 RR 1546e (1957), the Commission noted that the establishment of radiated emission levels sufficiently low to prevent instances of interference to licensed services and the prevention

days in a given area, this advance notice would provide an opportunity for competitors to market their broadband services in the same areas. Therefore, BPL providers would like the Commission to protect them by regulatory means from competition in broadband delivery.⁹ This argument is contrary to the entire basis for allowing BPL in the first place, which is competition in broadband delivery. It also contradicts Current's assertion that "Americans need multiple ways to bring reliable economical broadband access to homes and business – not only to reach places that are currently served, but also to accelerate competition in areas where broadband access is currently available." The argument in favor of eliminating the advance notice provision is unjustified, and contradicts public policy and the Commission's intent. Specifically, the Commission has stated that "[d]ifferent options for obtaining broadband services allow consumers and businesses to select the type(s) of service that best meet their individual needs. In addition, the open market for such services promotes competition that both makes service affordable and provides incentives for quality service and innovation in new technologies and service features." *Report and Order* at ¶ 12. The Commission not only encourages competition among broadband service providers; it also used such competition as the rationale and motivation for promoting BPL in the first place.

6. Current also alleges that the 30-day advance notice requirement "does nothing to further the purpose of the database – i.e. it does not help a licensee to determine whether BPL can be the source of particular interference (inasmuch as BPL cannot be an interference source before it commences operations)." This argument is false, and it reveals that BPL operators really are unconcerned about the spectrum pollution their systems do now or will inevitably

of interference (rather than the mitigation of it after the fact) was the *sine qua non* of authorizing unlicensed RF devices.

⁹ There is growing evidence that BPL solely as a consumer broadband service is not viable. Deployment is likely only for the internal use of a utility with consumer service offered only as an incident in specific limited

cause. In theory, a diligent BPL system operator would determine the ambient noise levels in reasonable proximity to its startup operation, and then measure the deterioration in the RF environment after it starts operations. However, the 30-day advance notice of startup operations at least allows radio Amateurs the opportunity to determine the ambient noise levels in areas where BPL systems will operate (at least in the immediate area of their fixed stations, and in the normal operating areas of mobile stations) prior to the time that the environment changes from the commencement of the BPL operation. It also allows the Amateur licensee to identify the source of new noise that arises upon the commencement of BPL operations. There is no mystery to this. Normal interference identification techniques include on/off tests. This is a means of objectively measuring the changes in the RF environment in advance of startup of BPL.

7. Absent the 30-day advance notice requirement, the ability to develop baseline measurements, and thus to determine the extent that the RF environment is degraded in a given area, is gone entirely.¹⁰ The 30-day notice period in and of itself does not prevent interference, and is woefully inadequate as an interference mitigation tool, but it *at least* creates the opportunity for affected licensees in the Amateur Service to be able to identify interference when it occurs, and to determine objectively the extent to which the operating environment in the high frequency and low-VHF bands are degraded. The purpose of the database is to inform those who might receive interference. The 30-day advance notice requirement is precisely consistent with

applications. Under these circumstances, there is little justification for the argument that BPL should be protected by regulatory means from competition.

¹⁰ The BPL industry as a whole has systematically denied that interference reported by Amateurs is “harmful interference” within the definition in the international Radio Regulations and in the Commission’s rules. A 30-day advance notice provision provides minimal time for Amateurs to make baseline measurements of the pre-BPL noise levels, to establish that which ARRL’s measurements indicate: that BPL systems degrade the ability of geographically proximate (i.e. within a half-mile) radio stations to communicate, by many dB. The baseline measurements in advance will allow that degradation to be quantified.

the purpose of the database, to which the Petitioners do not object. Current's suggestion that the advance notice requirement violates the Administrative Procedure Act is not well-taken.¹¹

8. BPL operators cannot be relied upon to identify and locate all licensed Amateur Radio stations within, for example, 500 meters of a BPL-carrying power line, and notify licensed Amateurs in advance of commencement of operations. Nor does the *Report and Order* require, or even suggest, that BPL operators do so.¹² The 30-day notice period, however, at the very least offers those with receivers within interference range a chance to contact the BPL provider and make their presence known. With this knowledge, a hypothetically diligent BPL provider could propose solutions to attempt to avoid interference, rather than to go through the process of interfering, receiving complaints, and *post-hoc* attempts at resolution.

9. There is no practical way to inform those who might receive interference while denying the same information to potential competitors of BPL providers. In this respect, in this instance, BPL operators are going to have to understand that the technology that they propose to use is qualitatively different from other broadband delivery mechanisms in that BPL has what NTIA has described as a "substantial" interference potential.¹³ This interference potential is so high that ARRL has argued, and will continue to argue, that Access BPL cannot be, and certainly should not be authorized on an unlicensed basis at all. To the extent that it is authorized, there

¹¹ Current argues that the advance notice requirement was not initially proposed in the Notice of Proposed Rule Making (NPRM) in this proceeding. Current is incorrect, however, in asserting that the Administrative Procedure Act requires that each and every requirement that is ultimately adopted must be included in the NPRM. Only a generalized notice of the proposed rules is required, and the final rule must be a "logical outgrowth" of the Notice proposal. That test is clearly met here with respect to when information must be furnished for the public database. See, *Aeronautical Radio, Inc. v. FCC*, 928 F.2d 428 (D.C. Cir. 1991).

¹² Indeed, it would not be possible to assure that all stations are identified in this manner anyway, since Amateur station licensees do not specify in licenses a station location, but only a mailing address, and Citizen's Radio Service stations and High Frequency Broadcast receivers have no licenses at all. Some HF users could be identified by an FCC database or otherwise, but certainly not all.

¹³ Even the Commission, at paragraph 49 of the *Report and Order*, has admitted that "the distributive nature and other technical characteristics of Access BPL pose somewhat higher potential for interference than point-source wireless broadband systems that warrant additional protective measures." This fact alone justifies the 30-day advance notice requirement.

must be some accounting for its substantial interference potential. The 30-day requirement is minimal, and woefully inadequate, but it at least provides an opportunity for an Amateur Radio licensee to know who to contact and what to expect when the interference inevitably occurs. The alternative is for a licensee, or an HF or low-VHF user to be suddenly blindsided by interference that has proven so overwhelming in test sites that it precludes all Amateur Radio communications on entire, and multiple, HF and VHF bands, and the virtual absence of any expectation of the availability of Commission enforcement.

10. Amperion argues that the disclosure of specific frequencies on which BPL operations will occur or are occurring, is unacceptable. As there is to be dynamic frequency selection, it claims, the precise frequencies are not known 30 days in advance of operation. It suggests that this might discourage a shift in frequencies later, if the assumption is that a change in frequencies might trigger a requirement to cease operation for 30 days. The argument is frivolous. Publishing the intent to use certain frequencies at the outset provides the licensed spectrum user the information without which it could not easily identify, or assess, potential interference problems after they arise. This information could be used as a basis for consultation between the BPL provider and the spectrum user. It may be necessary to change frequency bands several times, rapidly, in order to address individual problems. If that is so, the database will simply have to be changed. The entire conundrum raised by Amperion would, of course, be easily *avoided if Amateur allocations were simply excluded from those available for BPL systems*. Indeed, that is a choice that Amperion and all other BPL operators have to make. Avoid use of Amateur frequencies in advance, and the problem is neatly solved. It is notable that Current's equipment already excludes Amateur allocations (with the exception of those at 5 MHz), so that choice is apparently not only feasible, but commercially beneficial from Current's perspective as well.

11. Grant of the Petitioners' request to eliminate the 30-day advance notice requirement would not only be antithetical to the Commission's goal of providing competitive, affordable and efficient broadband access; it would also eliminate even the most minimal means for Amateur Radio licensees to be able to identify and contact the source of harmful BPL interference when it occurs. The 30-day advance notice rule should not be eliminated, and the Petitioners' request should be declined.

III. The Commission Should Eliminate the Transition Period for Certification of BPL Equipment, Rather Than Deleting or Extending the Deadline for Compliance

12. The second request, that of Current and UPLC to eliminate or extend the transition period deadline (for BPL equipment manufactured, marketed, or installed on or after July 7, 2006) is tantamount to an abdication of any requirement to implement any of the admittedly inadequate interference mitigation requirements in the *Report and Order* at all. Though the Commission's self-satisfaction with its illusory interference mitigation requirements is discouraging enough, the 18-month deadline for systems to commence installation and use of certificated, compliant equipment provides a large loophole. *Until July 7, 2006, no BPL system placed in operation ever has to come into compliance with the interference mitigation requirements.* Current wants to eliminate that deadline,¹⁴ and UPLC wants it extended until January 7, 2008.

13. Pursuant to Section 15.37(l), "[a]ll Access BPL devices that are manufactured, imported, marketed or installed on or after July 7, 2006 shall comply with the requirements specified in subpart G of this part, including certification of the equipment." Even a cursory reading of the Section reveals that BPL facilities installed before July 7, 2006 never have to

¹⁴ Current indicates that it would be satisfied with an extension of the deadline to the same date requested by UPLC.

come into compliance with the new rules. Moreover, the Commission specifically states that Access BPL equipment manufactured, imported, marketed and installed, prior to this date need comply only with the rules implemented prior to the issuance of the R&O. This is intolerable, given the number of interference incidents, and repeated examples of overpower operation at the relatively few BPL test sites that have been experienced thus far. The Petitioners' argument requesting additional time to obtain new equipment authorizations is unsupported and completely unjustified. The Commission has, without significant exception, allowed BPL providers virtually unfettered ability to commence operation and to create interference which has gone unresolved in every case to date, save for those in which the BPL system has shut down. The Commission is now touting and promoting BPL even though the systems being installed now have no obligation to comply later with any of the interference "mitigation" provisions that the Commission relies on and which it claims will prevent interference. That aside, Current is now arguing that BPL equipment for systems commencing operation even after July 7, 2006 should never be required to come into compliance with the new rules. The request is patently unreasonable. If Current's argument is accepted, the interference "mitigation" requirements, to the extent that they might ever have been of any assistance in interference cases, become effectively moot.

14. The Commission erred in the *Report and Order* by permitting non-compliant equipment to be installed and operated after the effective date of the *Report and Order*. The rule as it now stands actually encourages the installation of systems incorporating non-compliant equipment which creates harmful interference over the next 18 months. The Commission should refuse any extension of time for installing certificated BPL equipment. It should also modify the rule so that, on and after July 7, 2006, any operating BPL systems must deploy only certificated,

rule-compliant equipment. The current 18-month free period allows installation of systems without any of the capabilities that the Commission asserts will offset the increased interference potential of BPL. ARRL is unconvinced that the interference mitigation requirements, most of which are inapplicable to BPL-to-Amateur interference anyway, will be effective in preventing or resolving interference. But if they are never implemented, there can be *no doubt* but that they will fail. Large-scale production and deployment of equipment that does not comply with the newly adopted certification standards intended to mitigate interference would render the Commission's attempt to address interference (no matter how inadequately) meaningless. The record to date with respect to test systems shows that it is critical that the presently deployed BPL equipment be removed from service at the earliest opportunity. ARRL measurements made in Cottonwood, Arizona, Briarcliff Manor, New York, and most recently in Allentown, Pennsylvania show that the present equipment, when operated at its maximum levels, is capable of operating more than 20 dB above the FCC limits, no matter how it is extrapolated with distance. In Allentown, for example, recent measurements show that BPL emissions are 20 dB above the Part 15 limit, when measured at VHF. The certification rule requiring that this equipment be operated at full power for measurement would eliminate this serious source of rule violations and interference.

IV. Conclusion

16. Current, Amperion and UPLC each ask to be relieved of the burden of providing advance notice of commencement of operations to an otherwise undetermined group of licensed and unlicensed users of the HF and low-VHF radio spectrum who are entitled to interference protection from BPL systems. The alternative to the requirement is to allow those spectrum users to suffer interference with no advance notice or warning, and no practical ability to address the

matter informally with the BPL provider. The inevitable result of the relief requested is for interference incidents to go unreported, or if reported, inefficiently addressed. The sole justification offered by the Petitioners for deleting this rule is that it would afford competitors an opportunity to market their broadband delivery service, forcing BPL to have to compete for customers, and to cut rates to consumers: a fundamental reason for allowing BPL in the first place. The 30-day advance notice rule should be maintained.

17. As to the elimination or extension of the 18-month certification and compliance deadline, the Section 15.37(l) rule, which grandfathers interference-prone equipment already deficient now. To extend or delete the July 7, 2006 deadline for non-compliant BPL equipment merely encourages systems that do not incorporate any of the capabilities that the Commission touts as “mitigating” interference. Far from being a “burden without a benefit” as Current describes the present rule, it is a benefit for BPL operators now, the entire burden of which is borne by licensees such as radio amateurs who are saddled with interference from BPL systems so strong as to preclude use of entire, and often multiple, frequency bands. The extent to which spectrum polluting BPL systems have been accommodated by a Commission with its collective head in the sand about interference is shameful and an abdication of duty. To further deregulate this ill-advised polluting technology would, in this context, be unconscionable.

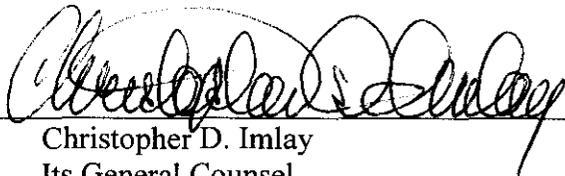
Therefore, for all of the above reasons, ARRL, the National Association for Amateur Radio, respectfully requests that the Commission deny the Petitions for Reconsideration filed by Current Technologies, LLC, United Power Line Council, and Amperion, Inc., and again further requests that the Commission reconsider, rescind and re-study in further proceedings the rules governing Access

Broadband Over Power Line systems in accordance with ARRL's Petition for Reconsideration.

Respectfully submitted,

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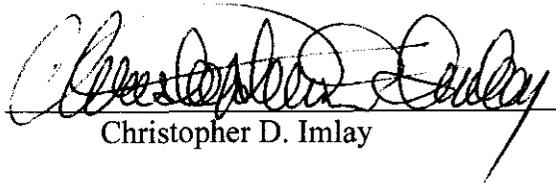
CERTIFICATE OF SERVICE

I, Christopher D. Imlay, do hereby certify that I caused to be mailed, via first class U.S. Mail, postage prepaid, a copy of the foregoing CONSOLIDATED OPPOSITION TO PETITIONS FOR RECONSIDERATION, to the following, this 23rd day of March, 2005.

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