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

In the Matter of

Amendment of Part 15 Regarding	**)**	**ET Docket No. 04-37**
New Requirements and Measurement	**)**	
Guidelines for Access Broadband	**)**	
Over Power Line Systems	**)**	

To: The Commission

REPLY COMMENTS OF THE POTOMAC VALLEY RADIO CLUB

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Filed: June 22, 2004

SUMMARY

The Potomac Valley Radio Club, Inc. ("PVRC"), a non-profit Amateur Radio organization with over 750 active members, believes that the preponderance of credible comments filed in this proceeding add up to a hugely convincing and chilling picture of the future for licensed services, if Access BPL (hereinafter, "BPL") is allowed to deploy under the Commission's currently-proposed rules and policies. The nearly universal message is that it is a massive error to adopt the rules as proposed, and the public interest will be irreparably harmed by so doing.

From the outset, PVRC has been particularly concerned that the Commission intends to move ahead with deployment of BPL despite government and private technical studies demonstrating the inescapable reality of harmful interference, both from BPL to licensed services and from those services to BPL users. In their comments, pro-BPL advocates continue to assert, against scientific fact, that powerlines are point sources, that they will not cause interference, that they will not be interfered with and BPL's use of radio spectrum will be benign. But the record is now so clear to the contrary that adoption of the currently proposed rules can only be seen as fundamentally inconsistent with the Commission's stated intention to protect licensed services.

In its Comments, PVRC proposed specific rule changes to Part 15 that, unlike the Commission's proposals, would provide necessary operational protections for licensed services while not unnecessarily burdening prospective BPL operators. These changes include reporting information requirements and definitive accountability for resolving interference

complaints. In addition, PVRC cautioned that without adequate equipment design provisions BPL must surely fail due to its exceptional susceptibility to interference from licensed services. In addition, PVRC argued that the economic rationale for BPL as compared with other emerging broadband Internet service options (particularly wireless systems) is faulty and opens power companies to grave business risks. If BPL does fail, for either technical or economic reasons, PVRC observed, the electric utilities' ratepayers and investors will be left with a massive amount of stranded plant.

PVRC has long felt that the FCC could be relied on to apply sound technical judgment, even when initiatives being proposed or evaluated carried heavy political significance or reflected the ideological positions of various Administrations. We regretfully believe, however, that in this case politics have so far been allowed to trump science, and the public interest will inevitably be harmed by deployment of BPL as currently proposed.

Licensed services must be protected and the burden must remain on BPL providers to cease operation if interference to those services is demonstrated. Not a single BPL provider or manufacturer has presented credible scientific arguments to demonstrate that BPL will not cause harmful interference to licensed services. Instead, the burden has been imposed on licensed service providers to prove such interference. That burden has been met, as the record of this proceeding clearly shows.

Table of Contents

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I. INTRODUCTION

The Potomac Valley Radio Club, Inc. ("PVRC"), a non-profit Amateur Radio organization with over 750 active members, submits these Reply Comments to assist the Commission in assessing the message so clearly articulated by the comments filed in this proceeding. That record, supported by communications specialists, engineers, hobbyists, policy experts and even governments, contains a hugely convincing and chilling picture of the future for licensed services if BPL is allowed to deploy under the Commission's proposed rules and policies.

Of particular concern to PVRC from the outset has been the Commission's stated intention to move ahead with deployment of BPL against the advice of government and private technical studies showing that BPL advocates are summarily without the ability or interest in avoiding harmful interference. In their comments in this proceeding, those pro-BPL advocates

continue to assert that power lines are point sources, that they will not cause interference, that they will not be interfered with and that their systems are benign.

In its Comments, PVRC proposed specific rule changes to Part 15 that would provide necessary operational protections and at the same time allow BPL to unfold as a new broadband service in the marketplace. Others have offered similar suggestions, all directed at curing the obvious infirmities in the rules proposed by the Commission's NPRM. The necessary changes include reporting information requirements and definitive accountability for resolving interference complaints. In addition, many parties concur with PVRC that without adequate equipment design provisions BPL will summarily fail due to its exceptional susceptibility to interference from licensed services. Such failure will cost electric utility ratepayers a huge amount of money.

II. BPL PROVIDERS DENY THEY POSE GRAVE RISKS TO LICENSED SERVICES

HF radiation from long wire conductors such as power lines is unassailable. In fact, many Amateurs operating at exceedingly low power levels utilize the "long-wire" antenna design to communicate with others around the world. Power lines are simply long-wire antennas when used to transport HF frequencies. Still, some BPL proponents persist in their claim that power lines are not HF signal radiators at all or are at best very poor antennas.[1] PVRC can only

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[1] *See* Comments of Energy Communications, Inc. at 7; Current Technologies at 3; HomePlug Powerline Alliance at 3 ("HomePlug"). HomePlug further claims that BPL devices have low power compared with licensed services and are therefore unlikely to cause harmful interference. It further compares BPL equipment to unlicensed devices used at 900 MHz, 2.4 GHz and 5 GHz. These arguments are patently without merit. They do not consider issues of receiver sensitivity, communication path distance, propagation, antenna types, absorption, etc.

speculate that they hope the political momentum favoring deployment of BPL will reduce the risk that truth will sterilize their misstatements.

In reviewing other comments in this proceeding, PVRC is disappointed to see that despite detailed engineering studies, actual on-site tests and even controlled experiments – all of which demonstrate beyond all possible doubt the certainty of harmful interference to licensed services – many advocates of BPL assert that there is little or no likelihood of such interference.[2] One electric utility company even appears to argue that interference from unintentional radiators is the same as and should be treated the same as interference from intentional radiators.[3] Another, remarkably, states that BPL is not radio frequency energy at all and is not intentionally transmitted.[4]

But the record is replete with studies, showings, descriptions, demonstrations, examinations and professional assessments – all of which conclude that BPL signals will radiate

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2 *See*, *e.g.*, Comments of Ameren Energy Communications, Inc. ("AEC") at 7; Comments of Current Technologies at 3, 11; Comments of Echelon Corp. at 2; Progress Energy at 5.

3 *See* Comments of Con Edison at 5.

4 *See* Comments of the National Energy Marketers Association, which state, at 2:

> However, it is important to note that current BPL/PLC technology is not radio frequency energy nor is it intentionally broadcast or transmitted by radio or as radio frequency energy. Unlike broadband transmitted by satellite, DSL wire or coaxial cable, current Access Broadband transmitted over electrical power lines operates below FCC jurisdiction at 60 hertz base band and uses inductive couplers as single-phase microgenerators to produce encoded micro-voltages of electrical energy that represent information/content.

PVRC is simply incredulous, and trusts that engineers at the Commission ascribe appropriate weight to these kinds of comments.

from power lines and cause harmful interference to licensed services.[5] For example, the ARRL, the National Association for Amateur Radio ("ARRL"), states, "[T]he current Section 15.109 and Section 15.209 field strengths will create substantial interference to Amateur Radio stations, whether fixed or mobile."[6] Many others report tests demonstrating the excessive radiation of potentially harmful interfering signals.[7] One commenter asserts that, "Power lines that will carry Access BPL systems will not behave as point source radiators, but rather will behave as line source radiators…."[8] harmful interfering HF signals from power lines.[9] Some express concern

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5 Harmful interference is not a risk only in areas near power lines carrying BPL signals, because the HF signals propagate worldwide. *See, e.g.,* Comments of CQ Communications, Inc.

6 Comments of ARRL at 17-18. *See also id*. at 12-19, Exhibits A, B, C.

7 *Id*. at 12-19 (reporting tests) and associated Exhibits.

8 Comments of Ronald M. Majewski at 3-4. For its part, Sprint unequivocally states that access BPL should not be permitted to operate in the frequency bands used by licensed services. *See* Comments of Sprint Corporation at 2.

9 *See also, e.g.,* Comments of Carl R. Stevenson at 8. He reports detailed, professional-level measurements made in the Emmaus, Pennsylvania area during BPL operation. He states that "…the transmission line medium – medium and high voltage power distribution lines – were never designed to carry, and are poorly suited for carrying, high speed data signals." *Id*. at 8. *Also see* Comments of Rahul Tongia, Ph.D., who notes that the Austrian BPL experiment was terminated after massive interference to HF communications occurred during a Red Cross exercise there. *Id*. at 14-18. *See also* Comments of WBBA Class 15 – Florida International University at 1, 5 (Austria, Japan and Israel have abandoned or postponed BPL due to interference concerns); Comments of Peter D. Baskind (Japan rejected BPL because interference was too severe, citing http://www.soumu.go.jp/joho_tsusin/eng/Releases/Telecommunications/news020809_3.html); Comments of Stephen C. Petersen at 1 ("NTIA shows that the United states presently has the highest proposed limit among current proposals in the world for regulating BPL emissions, principally because proponents seek to grandfather in existing Part 15 limits without careful scientific scrutiny"; also shows that the U.S. BPL emission level is 40 dB above the highest standard of Germany, Norway and NATO. *Id*. Several BPL proponents seek grandfather status for their current systems and equipment. PVRC strongly opposes all arguments favoring grandfathering BPL equipment under current standards. This would put the Commission's approval on equipment that can cause severe and dangerous interference to safety and other licensed services.

that the Commission has not examined harmonics and intermodulation products.[10] Still other commenters express quite candidly their concerns about any operation of BPL in licensed frequencies,[11] and one commenter interestingly argues that removal of transformer filters to pass BPL signals will also allow other Part 15 signals as well as PLC system signals to enter other buildings and lines, causing an increase in the potential for interference generally.[12]

Many agree that notching does not adequately protect licensed frequencies, a technique that some manufacturers have offered as a solution to interference.[13] One commenter has examined Amperion's BPL system, which requires 6 MHz of contiguous bandwidth to work properly. Examination of the HF spectrum reveals that the only spectrum available (avoiding public safety and security licensed services) is above 22 MHz, but the required two-way operation and need for more than a single operational channel means that there is not enough spectrum unless the safety service bands are also used, which of course produces great potential for harmful interference to emergency service providers.[14]

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10 "AMSAT has learned that trouble has been experienced in Europe with intermodulation products generated by BPL-type signals mixing with strong radio signals." Comments of Radio Amateur Satellite Corp. ("AMSAT") at 2. *See also*, Comments of Roger V. Thompson, P.E. at 6 (harmonic and intermodulation distortion products of BPL fundamental frequencies can cause a wide range of public safety interference).

11 Sprint unequivocally states that access BPL should not be permitted to operate in the frequency bands used by licensed services. *See* Comments of Sprint Corporation ("Sprint").

12 Comments of Echelon Corp. at 3-4.

13 "Notching" is at best only partly successful, according to one observer who received harmful interference from nearby BPL transmissions. *See* Comments of Vincent Horvath, Ph.D. EE, at 2; Comments of Michael J. Sparling at 3 (selective filtering will prove very hard to do); Comments of Eric R. Ward at 3.

14 *See* Comments of Gary Pearce, analysis.

In an effort to trivialize the potential for harmful interference to licensed systems, some utility companies assert, incredibly, that there have been no instances or complaints of harmful interference from BPL experiments.[15] Others suggest that the relative paucity of complaints proves that BPL is harmless.[16] Of course, both of these assertions are contrary to reality and beg the question of future interference when more ubiquitously deployed BPL operations will inexorably produce massive interference problems to licensees.

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15 *See*, *e.g.*, Comments of AEC. *Cf*. Comments of PPL Telecomm LLC ("PPL"), which acknowledges 3 interference complaints in its BPL tests. *Also see* Comments of United Power Line Council ("UPLC") at 2 ("absence of a significant number of complaints"). Contrary to these assertions, there has been a surprisingly high number of complaints considering the mere experimental level of BPL deployment in highly isolated locations. *See, e.g.*, ARRL Comments at 12-19 and associated exhibits. *See also* Comments of AMRAD, which has demonstrated the destructive potential of BPL signals at substantial distances from terminals. One commenter witnessed first hand the harmful interference from BPL tests in Manassas, Virginia. Comments of Bill Smith at 1-3. Another commenter monitored Progress Energy BPL trials using Amperion equipment in North Carolina and concluded that band notches were not deep enough to eliminate interference in Amateur bands. *See* Comments of Gary Pearce at 7, with copy of an interference complaint submitted to Progress Energy. Mr. Pearce also notes that Amperion was unable to demonstrate to local Amateurs that its equipment could notch critical frequencies outside the 6 MHz spectrum segments. *Id*. Of greatest concern, the local power company, Progress Energy, has stated that it "reserves the right to define what constitutes 'harmful interference' to Amateur Radio operators in the vicinity of its BPL projects." *Id*. at 8. Apparently, Amperion's customer answers to a higher communications regulatory authority than the Commission.

16 *See, e.g.*, Comments of UPLC. UPLC argues that "BPL has no incentive to cause interference." *Id*. at 6. Such an argument is transparent as an attempt to substitute the lack of *mens rea* (a guilty or wrongful purpose) for impunity to cause harmful interference to licensees. Illustrative of a regulatory disconnect among power companies, LecStar Datanet, Inc. wants a 20 dB increase in power by reclassifying BPL equipment as Class A. PVRC believes this company may have misread the NPRM. For its part, PowerWan, Inc. claims that use of TDMA techniques reduces range of frequencies potentially damaging to a given licensee. *See* Comments of PowerWan at 1-2. This is technically without merit, if only because the underlying carrier constitutes the essential interfering signal. Moreover, interference to a given location is the aggregation of signals transmitted nearby, not to mention the entirety of TDMA channels radiated from nearby power lines.

Others argue that it is simply premature to deploy BPL until technical studies have been conducted and evaluated.[17] In this regard, PVRC cannot help but wonder why the Commission failed to grant ARRL's request for an extension of time in the Comment stage of this proceeding to study and evaluate the highly critical Phase 1 study conducted by the National Telecommunications Information Administration ("NTIA"), completed only days before the comments in this proceeding were due.[18] The Commission did grant an extension in the Reply Comment portion of this proceeding, allowing interested parties 3 weeks to evaluate the two phases of NTIA's study. PVRC believes that the risk of harmful interference on a broad scale requires that the Commission benefit from parties' complete and careful evaluation of NTIA's study. By limiting evaluation of the NTIA study to the Reply Comment stage of this proceeding, there will be no opportunity for parties to examine and report on others' assessments of the study. The record, therefore, will not contain the competent exchange of technical information that is so necessary in this terribly important proceeding, potentially giving greater weight to those parties who argue that BPL is being rushed to market prematurely.

In view of the foregoing, no reasonable person can conclude from the record that there will be anything less than a huge and harmful interference issue confronting HF licensees if

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[17] *See* Comments of National Antenna Consortium and the Amherst Alliance (which asks, "Where's the fire?") It further observes that interference to aircraft is foreseeable and may lead to massive liability claims. *See also* Comments of ARRL regarding failure of the Commission to grant an extension of time to allow evaluation of ARRL's commissioned studies or NTIA's study. *Id*. at 4-5, and Exhibits D and E. For its part, BellSouth suggests that BPL first requires "sufficient, enforceable safeguards . . . to ensure that BPL systems do not become a source of harmful interference for other services." Comments of BellSouth at 5. Further, the American Petroleum Institute reports BPL interference complaints in Alaska based on loss of system functionality for emergency communications. *Id.* at 5. *See also* Comments of IEEE-USA at 3 (BPL proliferation is premature).

BPL deploys.[19] Even at this very early stage, after only a limited number of experiments in relatively confined locations, the potential for harmful interference has been demonstrated. With this backdrop, the rules proposed by the Commission must be modified to assure that licensees are not harmed, and that the burden remains squarely on BPL providers to assure that licensees are assured integrity of their services.

III. BPL ADVOCATES MUST ACCEPT MITIGATION RESPONSIBILITY AND PARTICIPATE IN A PUBLICLY ACCESSIBLE INFORMATION DATABASE

One recurring theme among many BPL advocates is opposition to any requirement that they mitigate harmful interference.[20] For example, they strongly protest any shut-down requirement in the event of reports of harmful interference, a position that directly conflicts with the Commission's stated policies and would, if embraced, undermine any hope of preserving licensed services in the HF bands.[21] They also want to avoid providing information to a database regarding the location of their equipment, identity of the service provider, persons to be contacted, nature of the modulation scheme used, and notice to subscribers regarding

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18 *See* Comments of IEEE-USA at 3-5 (criticizing the Commission for failing to extend the comment period to allow consideration of the NTIA report).

19 Even some utilities have doubts. For example, The National Rural Telecommunications Cooperative and the National Rural Electric Cooperative Association (joint filing) at 3 state that, "Despite our desire for rapid BPL rollout, we caution that our research leads us to conclude that BPL technology will not be a viable solution in the near term for rural America…." They urge continued research into other technologies.

20 *See, e.g.*, Comments of American Public Power Associations at 6 (supports protecting licensees but doesn't want specific mitigation techniques); AT&T Comments at 5 (mitigation only when interference is a problem).

21 For its part, Progress Energy would accept only manual shut-down mitigation (which of course would have to be associated with a strict time requirement and would represent a major step backward in curing interference problems expeditiously). *See* Progress Energy Comments at 6. *Also see*, Con Edison at 2 (shut-down as a "last resort"); AT&T

susceptibility to interference from licensees operating in compliance with Commission regulations.[22]

There can be no BPL deployment without an efficient mechanism for expedient implementation of harmful interference mitigation techniques. Put simply, BPL transmitters causing interference must be shut off as soon as interference is reported. Anything less amounts to letting the fox into the hen house. The absurdity and motivations of the BPL proponents' opposition to accountability must be obvious. Imagine a safety service experiencing harmful interference following a terrorist attack or natural emergency. The nature of the interfering signals suggests a BPL transmitter in the area is causing the problem.[23] Safety of life and property are decided in a matter of seconds, but BPL is interfering with the transfer of critical emergency information. Absent virtually instantaneous access to a database of nearby BPL providers, their signal characteristics to provide identification, and a contact person who can remotely terminate the BPL transmitters until the specific source of interference is identified and eliminated, there is in effect no check on harmful interference.[24] If the BPL proponents prevail

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Comments at 5 (mitigation only when interference is a problem); AEC Comments at 8 (opposes any automatic shut-down feature).

22 *See, e.g.*, Power Line Communications Association at 4 (it is "unduly burdensome to provide the public with any location or operating characteristics"); AEC Comments at 9 (opposing notification requirements and central database); Cinergy at 3-4 (opposes publicly accessible database for security and competitive reasons but wants 3rd party to run it "out of the public eye and to complain to the 3rd party first); PPL at 7 (opposes database for fear of "deliberate interference potential"); Southern Line at 4 (claims adaptive interference mitigation techniques are unnecessary);

23 Indeed, the BPL transmitter causing the interference could be miles away, especially if the safety service is trying to receive a relatively weak signal, which is very likely in an emergency situation.

24 Aeronautical Radio, Inc. ("ARI") notes that cable television systems are required by Commission rules to perform detailed annual measurements of their systems to demonstrate that they are in compliance with signal level and other transmission criteria.

on this issue, safety service will be compromised and the consequences may be horrific – all so that a few BPL providers can operate in anonymity and outside the veil of accountability.

Power companies that assert they are compromising their privacy, national security and their competitive position by revealing basic information are raising red herrings, at best. Information such as BPL-provider identity, contact information, modulation technique and frequency bands used constitutes information that typically is available in equipment sales brochures or websites and in any event can hardly be viewed as a source of competitive disadvantage. In the field environment, however, the information must be readily available to curtail harmful interference. Hiding general identity and broad descriptive information specifically to avoid remediation of harmful interference to licensed service providers cannot be made BPL-providers' means of avoiding responsibility and accountability. Indeed, BPL proponents have not offered any specific language proposals to assist the Commission in assuring the integrity of the HF spectrum, preferring instead to simply categorically oppose any requirements that would hold them responsible for remediation of interference to licensed services.

In its Comments in this proceeding, PVRC proposed changes to Section 15.1509(f) and Section 15.1509(g) to assure that harmful interference could be mitigated effectively and fairly. These sections are as follows:

Section 15.1509(f):

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47 C.F.R. Section 76.611. Similarly, carrier current campus systems operating in the AM broadcast band are subject to such measurements under Part 15. Section 47 Section 15.221. ARI urges the Commission to impose a similar requirement on BPL operators. *See* ARI Comments at 5-6. PVRC agrees that this requirement is necessary and appropriate for BPL operations given their extraordinary risk of harmful interference to licensed services and urges the Commission to include such a requirement in Part 15. There is sufficient notice in the NPRM to support such a rule at this time.

> BPL systems shall incorporate adaptive interference mitigation techniques such as dynamic or remote reduction in power and removal of transmissions in frequency bands where interference to licensed operations has been reported. Access BPL systems shall incorporate a shut-down feature to deactivate units, including repeaters and series links, appearing to cause the harmful interference. The BPL operator must respond directly to any complainant within 24 hours of notification of interference or must remediate the interference within the 24-hour period. If the parties do not agree that BPL is the source of interference within this time period, the complainant will provide the BPL operator information sufficient to reasonably demonstrate that BPL is the interference source. Within 24 hours of providing such information, the BPL operator must activate its adaptive interference mitigation technique to eliminate the interference. The BPL operator may not resume the use of operating parameters previously shown to cause interference to stations in a licensed service without cooperative testing and formal confirmation by the station operator that the interference no longer occurs.
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> Section 15.1509(g):
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> Access Broadband over Power Line systems shall supply to an industry-operated entity recognized by the Federal Communications Commission and the National Telecommunications and Information Administration information on all existing, changes to existing and proposed Access BPL systems for inclusion in a database that is accessible by the Internet to all interest parties at no charge. Such information shall include the installation locations, frequency bands of operation, bandwidths of transmissions, types of modulation used and history/status of complaints of harmful interference for all such systems. It shall also include the names of the companies providing such service in each location and a contact person and telephone number for that company/location.

ARRL has provided similar language in its Comments in this proceeding.[25]

Upon reviewing the language proposed by ARRL, PVRC now joins ARRL in its proposal with regard to Section 15.1509(f). Accordingly, PVRC proposes the following language for newly worded Section 15.1509(f) in lieu of its earlier proposal:

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[25] *See* ARRL Comments at 19-24 and Appendix A. PVRC does not oppose the language proposed by ARRL. In fact, PVRC joins ARRL in proposing that BPL operations cease.

> Access BPL systems shall incorporate adaptive interference resolution techniques sufficient to cause such systems to cease operation within one hour of notification to the system operator by a licensee of the Commission that harmful interference is being caused to that licensed station. The BPL system shall not resume operation (other than for tests of the system with the active involvement of the complaining licensee) within one kilometer of the location of the complainant's station unless and until the harmful interference is resolved. In case of dispute as to the status of interference resolution, the Commission's District Office with jurisdiction over that location shall be consulted by the BPL system operator prior to recommending operation, with prior notice to the complaining licensee. Access BPL systems shall be inspected by the system operator throughout the system not less frequently than every six (6) months, to insure that radiated emissions from the power lines do not exceed the limits specified in this Part at any point. Should radiated emissions in excess of permitted limits be found, operation of the system must cease in that area until operating parameters are restore within applicable limits.

In sum, PVRC urges the Commission to strengthen the level of accountability and assure procedures that protect its HF licensees by adopting these two rule proposals. The public interest will be served and the deployment of BPL will unfold, to the extent possible, in a more orderly and less disruptive way.

IV. CONSUMER PROTECTIONS AND NOTICE ARE NEEDED

Absent from BPL proponents' comments is consideration of the risks of interference to their networks and equipment from properly operating licensed HF transmitters. As has been demonstrated in this proceeding, under the current regulatory scheme that protects licensed services over Part 15 devices and services, even a few watts of HF power from a nearby licensed transmitter will easily disrupt a customer's BPL service, and may even incapacitate an entire BPL network segment. BPL presumably anticipates rapid deployment of its services and favorable Commission reaction to what may be myriad complaints across the nation (and probably internationally given the propensity of low power HF signals to propagate) of disrupted service due to licensed

operator transmissions. While we cannot predict now exactly how the Commission will respond in the future to such situations, it is evident that this issue has been inappropriately submerged throughout this proceeding.

In addition, there is an important need to provide notice to BPL subscribers that their broadband interconnectivity as well as the operation of their interface devices will be at risk in the event any licensed HF operator transmits within as much as a mile or more away – and that the subscriber understands that the HF operator bears no responsibility for any consequences arising out of such disruption or equipment disablement or damage. Accordingly, PVRC urges the Commission, as a matter of disclosure and fairness, to require BPL providers to include conspicuous and plain language notice of these risks in every contract for service. This requirement can be included in proposed Section 15.1509(f) with language such as the following:

> In addition, the BPL provider must include conspicuous notice to each subscriber of the risks of service disruption and possible disablement or damage to equipment from proximate licensed radio transmissions, and that such consequences are not the responsibility of the licensed operator.

Also missing from the Commission's discussion, and not surprisingly from every BPL-advocate's comments, is the risk to all electric ratepayers of stranded plant in the event BPL fails. Power lines were not intended to carry HF signals, and there is considerable question as to whether in a competitive environment of broadband service provision BPL is generally viable. Clearly, coaxial cable, fiber optic, copper loop, satellite and other technologies are not susceptible to the broadly distributed sources of crippling interference and service disruption that confront BPL. Therefore, all electric power consumers, to varying degrees, will underwrite the risky venture their power companies are pursuing. One can only wonder if this is appropriate national policy.

Given the broad notoriety associated with BPL, it is necessary and proper that the Commission at least discuss this issue in its Report and Order in this proceeding.

V. CONCLUSION

For the reasons discussed herein, PVRC strongly urges the Commission to adopt far more stringent rules to assure appropriate identification of BPL operations and provide sufficiently robust and responsive procedures for mitigating harmful interference to licensed radio services. Specifically, PVRC urges the Commission to adopt the rules contained in Appendix A hereto. The procedures adopted must mandate adaptive remote remediation and response within one hour. PVRC also opposes any grandfathering of BPL equipment as inappropriate and inconsistent with protecting licensed services. Finally, PVRC urges the Commission to caution future users of BPL of the risks of interference to their service by licensed operations in the HF and VHF spectrum.

Respectfully submitted,

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June 22, 2004

APPENDIX A – RULE PROPOSALS

PVRC proposes the following rule provisions:

1. Section 15.1509(f):

> Access BPL systems shall incorporate adaptive interference resolution techniques sufficient to cause such systems to cease operation within one hour of notification to the system operator by a licensee of the Commission that harmful interference is being caused to that licensed station. The BPL system shall not resume operation (other than for tests of the system with the active involvement of the complaining licensee) within one kilometer of the location of the complainant's station unless and until the harmful interference is resolved. In case of dispute as to the status of interference resolution, the Commission's District Office with jurisdiction over that location shall be consulted by the BPL system operator prior to recommending operation, with prior notice to the complaining licensee. Access BPL systems shall be inspected by the system operator throughout the system not less frequently than every six (6) months, to insure that radiated emissions from the power lines do not exceed the limits specified in this Part at any point. Should radiated emissions in excess of permitted limits be found, operation of the system must cease in that area until operating parameters are restored within applicable limits.
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> In addition, the BPL provider must include conspicuous notice to each subscriber of the risks of service disruption and possible disablement or damage to equipment from proximate licensed radio transmissions, and that such consequences are not the responsibility of the licensed operator.

2. Section 15.1509(g):

> Access Broadband over Power Line systems shall supply to an industry-operated entity recognized by the Federal Communications Commission and the National Telecommunications and Information Administration information on all existing, changes to existing and proposed Access BPL systems for inclusion in a database that is accessible by the Internet to all interest parties at no charge. Such information shall include the installation locations, frequency bands of operation, bandwidths of transmissions, types of modulation used and history/status of complaints of harmful interference for all such systems. It shall also include the names of the companies providing such service in each location and a contact person and telephone number for that company/location.