

May 1, 2004

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Re: Reply comments on NPRM of ET Dockets No. 03-104 and 04-37

To Commission's Secretary, Office of the Secretary, Federal Communications Commission:

10. Definition of Access BPL

For the most part we agree with the proposed definition of Access BPL. We do suggest that the definition account for entities that are not electrical power providers or a subsidiary of one. The results of our research indicate that there are Access BPL providers operating in the United States under the testing stage. These companies are offering the service in states like Virginia, Maryland and Ohio. None of these companies are electrical power providers or a subsidiary of one.

12. Measurement Guidelines

We trust the measurement guidelines stated in Appendix C would be acceptable but should be modified if additional information is obtained regarding improvement of measurement techniques.

13. Comment on whether any additional measures are needed to protect particular operations, such as.

While BPL proponents claim that it does not cause radiation interference, their claim is not backed by real world field-testing or hard data. We found that several countries such as Australia, Japan and Israel have explored utilization of BPL. These countries had to either abandon or postpone their BPL projects due to unacceptable levels of radiation interference. Given the increasing threat of terrorism and risk of natural disasters in the US, it is absolutely essential that BPL be regulated to the extent that it will not compromise public safety. Responsible for all man-made and natural disasters, FEMA has expressed its concerns of the BPL's noise level and its interference to the agency's FNARS radio communication system.

Due to the important nature of this issue, the FCC must beef up the Part 15 rules to ensure that there is no increase in interference levels to existing FCC licensed communication systems. In addition, the FCC must establish strict performance standards for BPL operators. In establishing these standards, the FCC must include input from government safety and emergency response agencies. Amateur radio operators who provide needed services to the Military Affiliate Radio System and the National Weather Service should also be involved. The FCC should be responsible for enforcing all standards against BPL violators by applying penalties such as monetary fines and forfeitures.

14. Interference Concerns

Although we determined that none of the BPL systems use the AM broadcast band, wherever BPL is used the FCC should adopt the responsibility for establishing and enforcing timely and effective measures against any harmful interference. As we previously mentioned, fines and forfeitures should be applied to any power utility or business partner involved with BPL that does not comply with the rules that the Commission sets. We suggest that the FCC require that all BPL providers provide a 24-hour telephone and e-mail contact so that consumers can register the need for BPL notching when necessary. The Commission should implement a time span in which the BPL provider must resolve the interference issue. Failure to resolve the interference should result in enforcement action by the Commission.

BPL providers should all be required to meet current FCC part 15 regulations. Amperion's products include frequency agility technology that shifts frequencies so it does not overlap ham bands. It can also notch frequencies, thereby not transmitting on the specific ham bands. Amperion has actively engaged members of ARRL and other radio organizations in order to respond to interference concerns. We propose that the FCC use this company as an example for others. Emergencies, by their very nature, arrive without notice. The FCC must ensure that interference mitigation measures in deployed systems reflect the urgency and importance of protecting radio communication resources in the BPL environment.

17. Preventing Interference

We propose to have a committee comprised of engineers and consultants with the 5-year task of inspecting and auditing the compliance of BPL regulations; once these regulations have been formally established.

The proposed shut-off feature (switch) must be accessible from all primary government administered emergency agencies, such as: the Centers for Disease Control (CDC), the FCC, National Hurricane Center, Home Land Security, etc. This access should be regionalized at a predetermined geographical level,

similar to postal zip codes or the system used by municipal zoning departments. This will facilitate interference inspections and isolate the physical location of households that emit exorbitant amounts of interference. For testing purposes, it also opens the ability to disseminate advanced notice of possible disruption to businesses and/or households during testing periods.

The various frequencies that any given Access BPL device can function on, or Frequency Shift, should remain as a feature anywhere BPL is used. This may be used to reduce the amount of disruption to remote BPL users if a disruption is imminent. This may solve potential customer service issues.

Furthermore, all firms wishing to embark on the sale of BPL service for profit may do so under the explicit understanding that the shut-off feature is prevalent and supersedes any customer service situation. The on us is on these firms to communicate this probable inconvenience to would be customers at point-of-sale. This is no different from Direct TV's bad weather warning to new subscribers. Here's where the clever marketing departments can earn its pay.

We propose a nominal one-time surcharge of \$5.00, assuming legislative actions support it, upon installation to adequately fund the logistical implementation of Frequency Shift. The surcharge could also be incurred as other cost of goods sold (OCGS) by the Access BPL providers. It is our recommendation that publicly funded firms essential to gubernatorial infrastructure (similar to hospitals, civil engineering, water management, stock markets etc.), refrain from BPL usage until the elimination of interference is guaranteed. This should ensure minimal disruption to society during emergency or testing situations, particularly where HAM radios are concerned.

Ham Radio Disruption

Our suggestion is that as part of the prevention measures, all registered HAM radio users be provided with a quarterly update on recent Access BPL subscribers in their area. They should also have an 800 number to communicate any high levels of disruption to specific HAM radio frequencies.

Implementation

Compliance should not be optional and it should be ex post facto (retroactive). The Frequency Shift and / or the shut-off mechanism that doesn't currently exist in many Access BPL devices should be corrected within 90 calendar days. The cost associated with this corrective action is the burden of the provider. However, because it would require a cumbersome effort to distribute or alter countless BPL devices, a reprieve of up to six months will be afforded to the Access BPL providers before fines or license revocations are in order. Businesses are easily accessible. However, households may prove to be a little more difficult to ensure compliance by 6 months. This is why we recommend up

to 365 calendar days for ALL houses to be compliant. After this point the provider will be forced to shut down the customers service or risk steep fines. The emerging popularity and benefits of Access BPL should warrant the nominal increase necessary to address any frequency disruptions.

18. Notification Requirements

Our research has shown that none of the current Access BPL providers contacted have had any complaints from emergency response systems as far as interference is concerned, however we suggest that the notification requirements be part of the conditions for allowing Access BPL to be extended throughout the country. The operations of Access BPL providers should be monitored and tested by an industry-operated entity that is unbiased. The company is to be notified and must be able to verify the location of the Access BPL provider as well as their operating characteristics. We suggest quarterly test be done to determine the type of modulation used and the frequency bands of operations. Having this neutral company check on the Access BPL provider will ensure that any harmful characteristics are identified and avoidance measures facilitated. We found that in most cases, Access BPL providers use the local electric power provider as their main source for acquiring new customers. We feel that this procedure is good practice as long as the consumer's personal information is protected.

We urge that notification requirements should be in control of operating conditions rather than the provider's database and consumers' confidential information. A centralized database that is readily accessible via the Internet should be implemented to store the information on BPL systems. Maps of BPL systems should be made available. This will permit users to isolate if a local BPL system is causing any interference. Data on the type of system and the specifications should be posted. Also data on any tested and verified interference from emissions from the system should be made available to the public. Operators of the BPL systems should be required to keep this database updated.

19. / 20. Equipment Authorization and Measurement Guidelines

The ARRL has conducted surveys in regions currently testing BPL technology and systems. These surveys indicate that the interference caused by BPL to nearby licensed users of the HF bands will make the bands virtually unusable. This would destroy the ability of Hams to provide the service for which they have been relied upon. Some of these instances include provision of important information such as that provided during the 09/11 terrorist attacks on the Pentagon and Twin Towers in New York.

According to Part 15 rules, devices, which will operate under Part 15, should be designed to avoid interference. However, according to the AARRL's surveys the interference experienced is significant.

Part 15 rules have generally been used to regulate the use of low power transmitters operating on single frequencies or bands. In such cases, changing frequencies or locations, minimizes the interference. In the case of BPL however, a broad range of frequencies is covered, creating a broad spectrum of unavoidable interference. Because BPL systems consist of broadband wide area transmissions, Part 15 cannot be depended on to regulate low power systems.

Services being interfered with will be using electrical field antennas as well as magnetic loops. It is therefore important that measurements use an electrical field sensing antenna below 30MHZ as well as a magnetic loop. This will give a more accurate result than that which will be obtained by simply using the magnetic loop.

21. Antenna Height

We feel that the heights of antennas for measurements listed in the NPRM could be used but a clause should be put in to allow changes to these measurements

22. Measurements

(A) Measurements should not be conducted at antenna heights greater than those proposed in Appendix C.

(B) In-situ measurements at antenna heights up to the height of an overhead medium voltage power line should only be made if the BPL system will be deployed near any buildings that may exceed the height of the power lines. Emissions above those heights could affect a significant amount of people.

24. Homeland Security

It is our opinion that BPL will contribute to homeland defense in much the same way that DSL, dial up and cable currently do. The FCC must keep in mind however, that Amateur radio stations also provide a huge service in times of national disasters such as 911. This is why it is essential that potential interference to their high frequency bands from BPL unintentional radiation must not occur. We strongly believe that the FCC should not increase the limits that Access BPL systems have for unintentional interference. ARRL has already proved that current limits cause interference and if part 15 limits are increased, the situation will worsen. Amateur radio operators provide much needed services to the Military Affiliate radio system, The National Weather Service and FEMA that are all essential homeland security. We urge that the FCC require

that all BPL providers coordinate with the licensed users of the high frequency spectrum to ensure that their very important mission is not disrupted.

30. The Commission Estimates that the great majority of wireless communications equipment manufactures are small business.

According to SBA's Table of Small Business Size Standards published in October 2002, video and audio equipment manufactures with 750 employees or less are considered small businesses; communication and energy wire manufactures with 1000 employees or less are considered small business. It is actually beneficial for BPL device manufactures to be categorized as small business. They will be eligible for a number of SBA loan programs. In addition, most government agencies set aside a share of their procurement activity exclusively for small businesses. These incentives will help the manufactures get a jump-start with their new ventures in BPL.

Respectfully submitted,

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