

Comments in Docket 04-37

BPL can produce interference to licensed spectrum users, as demonstrated in tests already done in the US, and during far more extensive tests done abroad. The licensed spectrum users affected by this interference may include vital emergency and homeland protection services, police, fire, aircraft communications, short-wave broadcasting, amateur radio, and many other licensed spectrum users.

Since BPL systems can cause interference, they must be required to take steps to prevent and eliminate interference to licensed spectrum users, as required under the non-interference requirements of the FCC Part 15 rules. Additional requirements should include:

Database Requirement:

The BPL system should be registered in a database accessible to licensed spectrum users and the public to allow the identification of the offending system, and to obtain contact information to allow rapid coordination with the BPL system provider to eliminate the interference.

Identification Requirement:

The BPL system transmissions should contain an easily discernible identification so that licensed spectrum users can identify the BPL system causing interference. This is especially important since more than one BPL system may be operating in an area, or the effects of signal conduction, reflection, propagation or topography may make it difficult to identify an offending system solely from a listed address in a database. This identification should consist of a easily decoded identification transmitted on a periodic basis on all frequency channels (carriers) put into use in the BPL system.

Adaptive Interference Elimination:

The BPL system operators should be required to incorporate technical means of rapidly responding to eliminate interference. Means must be incorporated to immediately reduce power, eliminate (notch) frequency bands, and cease transmissions when interference occurs to licensed spectrum users. BPL systems providers must respond to interference complaints until the interference is eliminated, and cannot take "half-measures". The FCC should make clear that BPL systems providers are responsible for eliminating interference to other licensed spectrum users.

Measurement and Compliance:

The FCC should maintain the existing Part 15 emission limits and non-interference requirements, and further require that BPL system providers ensure compliance with the emission limits before commencing operation and on a periodic basis, such as each 90 days. The BPL system provider should be required to hold an initial "evaluation" period of no less than 30 days before commencing normal operation, during which any interference complaints can be received and the interference eliminated.

Measurement Height and Distance:

Measurements should be conducted at the height of the highest line carrying the BPL signals, and no less than 10 meters in height. This height is also relevant to licensed spectrum users which commonly have receiving antennas at these heights, either mounted on buildings, rooftops, or small support masts or structures. The horizontal distance from power lines for measurement is more problematic as the lines carrying the BPL signals may often run close to houses, buildings or offices, and will in fact run directly into such locations. In particular, vehicle and mobile operations of licensed spectrum users will encounter a wide variety of distances and configurations of power lines, drop lines and equipment locations. On balance, requiring measurements at distances of no less 10 meters should be required, but should not provide immunity to any BPL system causing interference to a licensed spectrum user at any greater or lesser distance.

Protection of Vehicle and Mobile stations:

As many emergency, police, fire, amateur and other licensed services make extensive use of stations mounted in vehicles, the only practical protection to them will be to require BPL emissions to be restricted to low power levels which substantially prevent interference. The exact level is currently unknown, but appears to be far below current allowed emission levels, as interference has been demonstrated to mobile stations from current BPL installations.

Summary:

In a time when emergency and homeland protection communications is an a essential resource, and licensed spectrum users have for many years been maintaining and operating their systems in strict compliance with FCC rules, any new BPL systems should be required to fully comply with Part 15 emission limits and non-interference requirements. BPL systems should be required to be easily identifiable, and be required to have means to rapidly eliminate reported interference. While measurement of BPL

emissions should be required as a minimal assurance, it should not eliminate the responsibility of BPL system operators to eliminate interference to other licensed spectrum users. Protection of the vehicle and mobile stations used by the current licensed services will require emissions limits yet to be determined which appear to be far lower than the current allowed levels.

Failure to protect current services from BPL interference may make the allocated spectrum unusable to the primary, licensed spectrum users relying on their allocated spectrum. Recovering from such failure will be far more costly and difficult than adopting cautious, stringent requirements upon the developing BPL systems.

Sincerely,

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