

Comments on NPRM of ET Docket # 04-37

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As stated in the NPRM, the FCC is proposing to amend Part 15 rules as they apply to Broadband over Power Lines (BPL). Listed below are the reasons why **I am AGAINST** any relaxation of the Part 15 rules as they apply to BPL, and further believe that Part 15 rules need to be tightened to reduce interference to licensed radio services.

The FCC defines as "harmful interference" as any interference that "seriously degrades, obstructs or repeatedly interrupts a radiocommunication service operating in accordance with the Radio Regulations." As stated in Part 15 and in the NPRM, licensed radio services must be protected by harmful interference caused by BPL systems. Clearly, in BPL testing and in communities that have had limited BPL presence, harmful interference exists. This has been well documented by the American Radio Relay League (ARRL), and others. Currently in North Carolina, Progress Energy Corp (PEC) has failed to answer to amateurs concerns over the harmful interference that they have been receiving since BPL was released, and have failed to fully comply with Part 15 rules which deal with harmful interference. It is not incumbent on those receiving harmful interference to solve interference issues, rather it is the responsibility of those causing the interference to stop, as stated in Part 15. In the PEC case, it is obvious the they are not in compliance of Part 15 rules which regulate these emissions. Throughout the NPRM, the stance that BPL systems must not cause interference and operate on a "non-interference basis" is echoed numerous times. This is obviously an important part of Part 15 and should be followed fully, not overlooked by those who chose to do so. The FCC's proposed "interference mitigation" requirements fall far short of providing real protection from harmful interference, and the Commission is ignoring the practical problems that will arise when licensed Amateur Radio transmissions disrupt BPL systems. The FCC must also establish performance standards for BPL interference mitigation. To offer any real protection to licensed services, the rules must require that interference be resolved immediately. There must be severe enforcement penalties for failure to resolve a complaint in real time and for failure to maintain the database.

It is interesting and hypocritical for the power industry to think that BPL will not cause interference to licenced radio services, as they recently put up a large fight over proposed new amateur frequency allocation in the lower High Frequency (HF) band. They stated that amateurs would cause interference to their transmission of control signals that their industry uses. They said that their own power lines act as antennas in the HF spectrum, and their control signals would be interfered with. Clearly this is an admission that BPL in the HF spectrum is a bad idea, as signals can and will be transmitted by power lines which were only designed to carry electricity for home and business use. Power lines are not the same as coaxial cable TV transmission lines or balanced twisted pair telephone lines designed not to leak signals. The

laws of physics will not change to allow BPL to be transmitted without interference.

The HF signals that amateurs deal with are weak or very low in signal strength, and amateurs use transceivers designed to be able to hear these signals. BPL will only raise the noise floor thus only allowing extremely strong signals to be heard. HF signals are largely effected by propagation as the signals bounce off the ionosphere. BPL studies have not included this known phenomena of propagation, and without studying this would be foolish. BPL can thus be included in the category of pollution. The United States and the world have laws which govern air pollution, water pollution, etc., and radio spectrum pollution should be included. After all, it is an intangible resource that cannot be abused and must be carefully regulated to ensure it is available for future generations of man. The negative effects of BPL were wisely seen by other countries in the world. Japan, Austria, and The Netherlands, to name a few, know what harmful effects BPL have on the radio spectrum and have fully rejected it. Their studies and field trials have proven that BPL is not compatible with signals in the HF spectrum and must not exist. By overlooking facts that not only other countries have found, but facts that recent studies in the US have shown, is negligent and not serving of the people of the United States. The FCC needs to be a true regulating body, concerned with not only the needs of the US citizens, but how their decisions may affect the world in general. It appears that lately this has not been the case, rather one of allowing new unproven technologies to be advanced without regulation or proper control.

The National Telecommunications and Information Administration (NTIA), recently released their study on BPL which clearly shows the problems associated with BPL. They state "NTIA does not recommend that the FCC relax Part 15 field strength limits for BPL systems." Their two volume report consists of some 266 pages worth of documented facts regarding BPL and its effects. The ARRL, AMRAD, and others have also done the same while there has been no well documented studies from the BPL industry stating facts that BPL will not cause harmful interference. Most test locations have been carefully chosen by the BPL industry which did not have amateur radio operators living in the test areas. We can only assume the reason for this, is that the BPL industry wants BPL to look good, but the facts show otherwise. Progress Energy Corp is seeing this now in North Carolina. There has been only one company, Corridor Systems, which has a system which their studies show that their BPL system will not cause interference to the HF spectrum. The reason this is, is that they use a system that works at 2.4 GHz and 5.3 GHz. All others have not shown how their systems will operate within Part 15 rules and not cause interference. Overlooking these studies is truly inconceivable, but is clearly being done.

The amateur service, as stated in Part 97, reads "Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, **particularly with respect to providing emergency communications** [97.1 (a)]. This is the backbone of amateur radio and says it all. Amateurs provide emergency communication support almost on a daily basis somewhere in the country, and this is true of other amateurs around the world. Amateurs use the HF spectrum to provide these essential services and the disruption of the HF spectrum by BPL signals would be extremely harmful. FEMA addresses this issue in their reply to ET Docket 03-104, "**FEMA has concluded that introduction of unwanted interference from the implementation of BPL technology into the high frequency radio spectrum will result in significant detriments to the operation of FEMA radio systems**". **With todays uncertainty of terrorism, one would think these issues should be considered first before the introduction of BPL as a method of internet access. The amateur radio service is the only failsafe system and is not tied down to established infrastructure to**

provide emergency communications. When the terrorist events of September 11<sup>th</sup>, 2001 occurred, most telephone systems were rendered inoperable as they were either destroyed or overloaded, and normal communications ceased. Amateur radio was the only emergency communications that was not effected by such issues, and was never down during the crisis of it's follow on recovery. Amateurs have been instrumental in natural disaster communications most recently with tornado spotting and recovery efforts in Illinois and Oklahoma. From floods to wild fires, earthquakes to chemical spills, amateurs are a vital part of emergency communication efforts. As far-fetched as it may seem, a 12-year-old boy's life was saved after being shot by pirates in the Carribean. His rescue, and that of his family, was facilitated by an amateur radio operator using the HF spectrum. Further examples of amateurs and their emergency communications efforts can be found on the ARRL web site ([www.arrl.org](http://www.arrl.org)). Allowing BPL in it's current form (or with any new relaxed standards) will negatively effect this countries abilities to deal with these situations. If the common citizen were to realize this, they would be infuriated and demand that this countries leaders do something about it.

The only conclusion that I can come to is this: Part 15 rules must not be relaxed, but must be tightened when referring to BPL. Current standards have been proven inadequate and harmful interference is occurring and must be stopped. It is the Commissions responsibility to act upon facts presented by open proven studies that show BPL is harmful and not at the word from the power line industry saying that BPL is viable.

The truth to the power line industry studies is that they skew their facts such that BPL looks good to board members and stockholders who are only looking at the financial gain and real truth is hidden. Given the uncertainty of the current geopolitical situation, and the continuing risk of natural disaster, putting existing radio communication systems in jeopardy to accommodate the unlicensed user of the spectrum would be an irresponsible act. The Commission needs to subject BPL to a more critical review and not allow harmful interference to occur to licensed radio users. If BPL is such a great technology, license it and subject it to the scrutiny that other licensed radio services must adhere to. Until then, there are other non interfering systems available to consumers to connect to the internet.

**Respectfully Submitted**

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