

## **FCC Issues BPL NPRM**

*Editorial Observations from Sierra Signals*

The FCC, on Feb 23, 2004, issued a Notice of Proposed Rule Making adding Broadband over Power Lines (BPL) as a Carrier Current application under Part 15. Several hams have pointed out that, while we are fairly good with the technical aspects and issues of FCC actions, we are woefully uneducated about the administrative and political workings of the Agency that regulates our hobby. It's probably worth a couple of columns to try and rectify that.

I, (your editor), have had some experience in both written and oral appearances before the FCC. Admittedly, it was always as an engineer, with one or more (usually more!) lawyers next to me. I am thus far from an expert, but I viewed it as a learning experience. We'd all like to have our comments to the FCC regarding BPL viewed positively and constructively, so what follows are a few of the things I learned.

### **What has happened?**

The FCC is required to follow a defined process when it crafts regulations, and the process must include public input. Last summer, the FCC issued a Notice of Inquiry (NOI) regarding BPL. The NOI is a broad request for information, ideas, and comments from industry and the public on an issue or technology the FCC has under consideration. The FCC will usually ask a series of questions on which they'd like comments, and they did on this one.

Following the NOI and whatever time the FCC staff requires to digest all the comments, one of two things will usually happen: a) They will drop the matter; or b) They will issue a Notice of Proposed Rule Making (NPRM). Since the FCC had reasons for issuing the NOI in the first place, option "a" is quite rare.

The NPRM is a formal proposal by the FCC that discloses exactly the language they propose to place in the Federal Regulations (FCC Rules are codified in Title 47 of the Combined Federal Regulations. For example rules for the Amateur Service are in 47CFR97). Again, there are comment periods, however now, with specific proposed rules, the comments must be directed at those proposed rules. This is where we are now with BPL.

### **Comments, Comments, and more Comments**

Generally, the FCC provides two comment periods for all of its actions. The first (just called "Comments") requires that we directly address the proposed rules, their suitability, possible impacts, etc. The second period ("Reply Comments") provide the opportunity for us to comment on the comments ... sort of like rebuttal testimony in a trial. We must discuss the validity of the comments that have been filed, and it's too late to bring up new issues. The two periods run concurrently, so you are free to file Reply Comments before the Comments period is over (but see the end of this article).

### **How To Read the NPRM**

You will find the NPRM on the FCC web at: [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-03-100A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-100A1.pdf). It is also available in MS Word and ASCII Text format, but I strongly recommend the PDF version because it preserves all of the typography such as footnotes one would find in a printed document. You can ignore the other files; the above link is a consolidated document.

The body of the NPRM is the FCC's discussion of the process, the motivation for the new rules, background, some analysis of the NOI comments, and the staff observations. Appendix A is good bedtime reading, and you can safely skip it.

Appendix B is the real guts of the NPRM -- the proposed rules and changes to existing rules. To really understand it, you need a copy of the current Part 15, also available through the FCC's web site. Appendix C contains the proposed measurement guidelines for BPL compliance with the new rules. The remainder of the Appendices are just political statements of the individual commissioners, who all think BPL is wonderful.

## What Does the NPRM Do?

Part 15 covers unlicensed RF energy radiators, and divides them into three categories: Intentional, Unintentional, and Incidental. Intentional radiators are devices that must radiate RF energy to function. The remote temperature sensor for your atomic clock, garage door openers, and the keyless device on your key ring are examples. Unintentional radiators require RF energy internally for operation, some of which is radiated. Best example is your computer. Incidental radiators are noisemakers, such as power lines, motors, dimmers, and other such things that generate RF incidental to their operation.

***Part 15 devices must not interfere with licensed services, and must accept any and all interference from licensed services.***

The BPL NPRM proposes to classify BPL as an unintentional radiator in the class of Carrier Current Systems (CCS), and to make all of the existing rules for CCS applicable to BPL. **That's really all it does!** It appears very innocuous, benign, and simple, at least superficially, and this poses a big challenge for amateurs' comments. We're going to have a hard time convincing the FCC and our elected officials that it is bad.

## Unconditional Surrender?

Brace yourself ... not likely there will be an unconditional surrender on the part of the BPL industry, and BPL will happen in some form. We can, however, affect how it happens and how we can enhance it's compliance with Part 15 requirements.

## Things We Can Do

Here's a list of some issues we can attack in our comments that can improve our situation. It is not exhaustive, but it is a start, and each speaks to the proposed rules. Note that the FCC, in the body of the NPRM, again asks for comments on specific issues. Your comments will get farther if you do that.

- CCS is typically VLF and LF signals with wavelengths in thousands of meters. BPL uses HF signals with wavelengths in tens of meters. Is it reasonable to classify BPL with the same limits and measurement techniques as traditional CCS?
- The NPRM requires BPL providers to establish a centralized database describing their BPL deployments and managing complaints. What should that database look like? Who should have access? How?
- Part 15 assumes CCS devices are point sources ... i.e. field strengths fall rapidly as you move away from the device along the power line. This is valid for VLF and LF CCS. Is it valid for BPL at HF?
- Once deployed, it will be nearly impossible to "undeploy" BPL if interference problems materialize. Does the FCC really want to take an irreversible action? Would a step-wise approach make more sense?

## Some Things You Might Want To Avoid

In the body of the NPRM, the FCC goes to some length to describe the various interference modes, and expresses its belief that this interference can be mitigated. Thus, just railing against interference potential in your comments isn't going to get much accomplished. They've already made it clear they believe it can be mitigated.

Part 15 already regulates carrier current systems, and has for years. Arguing against current regulations is a non-starter. The NPRM does not increase field strength limits over what they are and have been for years, although many hams seem to believe it does. Complaining about emission limits is thus also a non-starter (however, whether or not those limits are applicable to BPL at HF is a major issue).

## What's Next?

The NPRM gives us 45 days (until May 7, give or take a day depending on how you count) to file comments. It gives us 75 days to file Reply Comments. The ARRL will file both sets of its comments on

the last days. For us, waiting and reading the comments that have been filed on the FCC web site is a good idea, but as individuals, waiting until the very last day is probably not so good a plan!

I have added a BPL discussion page to the web site we use to coordinate communications for the Endurance Run and Ride each year. It is at [www.foothill.net/~andrea/ham15.htm](http://www.foothill.net/~andrea/ham15.htm) and you will find some ideas there. If you want to contribute, drop an email to [k6dgw@arrl.net](mailto:k6dgw@arrl.net) and I'll add it to the page.

73,

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Editor