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April 28, 2004

Federal Communications Commission
Washington, DC.

Re: Comments on Notice of Proposed Rule Making (NPRM) in the Matter of Carrier Current Systems, including Broadband over Power Line Systems (ET Docket No. 03-104) and Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems (ET Docket No. 04-37)

Dear Commissioners:

The following comments on the subject Notice of Proposed Rule Making (NPRM) are respectfully submitted.

I believe the Commission should be commended for proposing rules which are intended to encourage development of new technology while at the same time protecting licensed users of the high frequency (HF) spectrum. I take the Commission at its word that it intends to prohibit harmful interference.

I am concerned, however, that the notice reflects certain misunderstandings of the nature of Amateur Radio communications (and perhaps that of other HF users) and is ambiguous with regard to elimination of interference problems. Specifically:

1. The NPRM Paragraph notes that "we would expect that, in practice, many amateurs already orient their antennas to minimize the reception of emissions from nearby power lines." This statement is not correct and should be removed from the final rule. Those amateurs who are fortunate enough to have directional antennas obtain them for the purpose of *pointing in the direction of desired incoming signals, not to escape power line interference*. In fact, the need to point away from interference sources may likely *preclude* the desired communications link. Many of us use non rotating and/or omni directional antennas for reasons of cost, space and other considerations, and do not necessarily have the option of pointing away from interfering noise.

2. My concern about ambiguous language was heightened by recent comments sent to the Commission by Mr. Len Anthony, counsel for Progress Energy Corporation (PEC) relating to interference problems reported by amateur radio operators in Raleigh, North Carolina. He stated that "it is PEC's position and interpretation of the FCC's rules with regard to 'harmful interference' that any interference that may still exist is not harmful as that term is defined by the FCC rules. This level of interference does not seriously degrade ham radio operation or transmissions or cause repeated operations." Contrary to this assertion, observers in that community have noted that the top end of the 20 meter band (14.000 to 14.350 MHz) remains covered up by interference, and the bottom end of the 15 meter band (21.000 to 21.450 MHz) is compromised in areas where PEC has adjusted its system. No improvement was noted in areas of underground service.

I urge that the commission both address this situation administratively and with modifications to the NPRM that:

- a. substitute the word "eliminate" for the word "mitigate" wherever that verb is applied to

interference. As it is used in the NPRM, the word “mitigate” implies that compliance with the non interference rules can be achieved by simply *reducing* interference.

b. insert language (in addition to that already existing) to state *that harmful interference is that which compromises or prevents communication which would otherwise be achievable* should the interference not exist. The language should further make it clear that *emissions which merely comply with Part 15 rules are not thereby excused from the non interference rule*. Obviously very temporary interference cases should be excluded.

c. insert language notifying all parties that non interference rules will be scrupulously enforced.

Supporting arguments:

- These recommendations are intended to preclude such “gaming” of the rules as is exemplified by the language of counsel for PEC. His comments reinforce the impression that the power industry as a whole has little intention of being fully compliant with FCC rules insofar as interference to private citizens is concerned.
- The nature of HF communications and interference thereto is not a matter which lends itself to understanding by attorneys and corporate administrators unfamiliar with the activities of HF spectrum users. Non compliance is invited unless non interference rules and the protection of otherwise achievable communications are made crystal clear. The Commission rules should not leave the power industry in a position to determine what is and is not “harmful” interference, if for no other reason than that private citizens do not have the resources to effectively confront the industry. The “playing field” is simply not level.
- Amateur radio operators select operating frequencies based on propagation conditions, time of day, time of year and (equally important) in response to those selected by the operator on the “other end”. We do not necessarily have the option of moving elsewhere to accomplish desired communications, particularly in cases where a significant portion of a band allocation is compromised.
- At times signals are very weak due to natural conditions, and HF users have only a short window of opportunity to make contact. Commercial, government and amateur users all can experience the same conditions, and power increases do not necessarily solve the problem.
- The National Telecommunications and Information Administration Report (04-413) released in April documents probable interference to fixed base receivers experiencing low to moderate incoming signal levels; such interference is likely within areas extending to 460 meters (more than 1/4 mile) from the BPL source (report page vi). It also suggests that current techniques for measurement of Part 15 radiation limits may be inadequate. (This respondent lives approximately 100 *feet* from a power line, and currently experiences no interference; the NTIA findings suggest that commencement of uncorrected BPL emissions would render HF amateur radio operations impossible at this location.)
- Interference to the top end of the 20 meter band, as reported in Raleigh, exemplifies my concern. The Commission has frequently issued temporary orders forbidding non emergency use of certain frequencies at the high end of that band during hurricane season, thus facilitating the communications of amateur radio operators responding to those emergencies. Given this fact, the comments of PEC counsel are most egregious.
- It would be totally unfair to the industry, investors, consumers, as well as to those public

bodies and private citizens who use the HF spectrum if the FCC were not to make the ground rules perfectly clear at the outset and act to insure that they are respected. To do otherwise creates the risk of significant conflict and waste of resources, not to mention the Commission's time and energy in complaint resolution.

I urge the Commission to consider these recommendations and concerns. As a long term solution, I would urge the FCC to encourage BPL to use portions of the radio spectrum other than HF. That segment constitutes a *fraction* of 1 percent of the radio spectrum, yet is the only spectrum which can provide unassisted (ie without satellite or other expensive mechanisms) world wide communications. This spectrum should not be compromised, and I have no doubt the Commission will act to insure that result.

Respectfully

Lynn R. Hammond, III