UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C.

Proposed Regulatory Oversight Of Broadband Over Powerlines (BPL) Operations	**)))**	**FCC Docket No. 04-37**

**ADDITIONAL WRITTEN COMMENTS OF
THE NATIONAL ANTENNA CONSORTIUM (NAC)
AND THE AMHERST ALLIANCE**

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The NATIONAL ANTENNA CONSORTIUM (NAC) is a non-profit advocacy group, composed of those who own, use or manufacture antennas and/or own, lease or build commercial communications towers. THE AMHERST ALLIANCE is a citizens' advocacy group which favors Low Power Radio in particular -- and more open access to the airwaves, by everyday Americans and small businesses, in general.

Both groups have already made filings on the FCC's proposed rule, in FCC Docket 04-37, for increased regulatory oversight of Broadband Over Powerlines (BPL) technologies. These filings have included a February 19, 2004 joint request for a 2-month extension of the established comment period, which was followed by a separate but nearly identical request from the AMERICAN RADIO RELAY LEAGUE (ARRL) on April 9. As of April 30, with the Written Comments deadline set for May 3, the Commission has still neither granted nor denied either of these requests.

In any event, today we file these Additional Written Comments in Docket 04-37.

Release Of The NTIA Study Of BPL Interference

2 days ago, on April 28, 2004, NAC and THE AMHERST ALLIANCE learned of the public release of the long-awaited technical study of BPL interference by the National Telecommunications and Information Administration (NTIA).

Unless the Commission extends the current Written Comments deadline at the last minute -- as requested by 3 different organizations and 1 individual, Nickolaus Leggett N3NL of Virginia -- NAC and THE AMHERST ALLIANCE will have had a total of only 6 days to review and assess the NTIA study, and prepare Written Comments which discuss it.

Rather than submit a "rushed response" to the Commission, NAC and THE AMHERST ALLIANCE will refrain from addressing the substance of the NTIA study in these Additional Written Comments. We reserve the right to address the substance of that study in the future, during:

1. A possible extension of the currently applicable Written Comments period;
And/or
2. The Reply Comments period.

Commendations To The FCC

NAC and THE AMHERST ALLIANCE commend the Federal Communications Commission for 2 decisions it made when issuing the proposed rule in Docket 04-37.

1. Deciding not to increase the maximum power levels for BPL. The FCC acted wisely in developing a proposed rule which does *not* include an increase in maximum power levels for BPL operations. Although some BPL manufacturers and potential retailers had sought a major boost in BPL power levels, the technical evidence regarding BPL interference -- as submitted by ARRL, and others, during the Notice Of Inquiry in FCC Docket 03-104 -- argued strongly for extreme caution in this area. So did the strong concerns expressed by NTIA, the Federal Emergency Management Agency (FEMA), the Disaster Emergency Relief Association (DERA) and Aeronautical Radio, Inc. regarding the risks of BPL interference with communications equipment used for aircraft safety, "first responses" to disasters and the maintenance of national security.

The technical evidence which is *already in hand,* and On The Record in FCC Docket 03-104, is certainly ample enough to make the retention of Part 15 power levels an indisputably prudent decision.

Arguably, the same evidence is also enough to justify an actual *reduction* in BPL power levels -- if not the outright revocation of authorization for all BPL technologies. After all, those technologies were allowed to become operational, under the Part 15 regulations, *before* the Commission ever saw the technical studies and other information that was brought to its attention through FCC Docket 03-104.

The results of the just-completed NTIA technical study of BPL interference -- and of the still-pending study by an independent consulting firm, under contract to ARRL

-- will presumably shed light on the question of whether the public will be sufficiently protected by holding the BPL power levels to the current Part 15 ceilings. Another clearly relevant factor will be the extent to which the Commission can develop, and BPL manufacturers and retailers can meet, clearly defined performance standards for the proposed "interference mitigation" measures.

We urge the Commission to remain open to the possibility of *reduced* power levels for BPL -- or even outright revocation of the present authorization for BPL operations, under Part 15 -- *if* the new technical studies, and/or the "real world" performance of "interference mitigation" measures, warrant such additional caution.

2. Embracing the concept of interference mitigation measures. NAC and THE AMHERST ALLIANCE heartily commend the Commission for including the *concept* of interference mitigation measures in its proposed rule.

In any final rule, the Commission needs to "flesh out" more clearly the details of how these interference mitigation measures are expected to work … what performance standards will apply to them … and what specific options for seeking relief will be available when and if these measures fail to provide adequate protection against interference. Nevertheless, because the *concept* of interference mitigation measures must be embraced before the details can be developed, we commend the Commission for taking this important first step in its proposed rule.

Need For More Deliberate Deliberations

Despite the positive aspects of the proposed rule on BPL, in FCC Docket 04-37, NAC and THE AMHERST ALLIANCE continue to assert that a longer comment period is clearly needed and re-issuance of the proposed rule is clearly desirable.

A longer comment period is needed so that all concerned parties, including the FCC, can fully accommodate new information that was not available when the proposed rule was drafted and released.

Actual re-issuance of the proposed rule is currently advisable so that commenting parties will be able to address more clearly delineated version of the proposed interference mitigation measures. Re-issuance of the proposed rule may move from an advisable option to a compelling necessity *if* the 2 new technical studies of BPL interference, and/or other evidence submitted in Docket 04-37 by commenting parties, suggests that the record compiled in Docket 03-104 did not provide the Commission with a sufficiently comprehensive foundation for the drafting of its proposed rule.

1. Need to consider 2 new technical studies of BPL interference. As we noted earlier, NTIA's technical study of BPL interference did not become available, for review by commenting parties, until April 28: 6 days (and 4 workdays) before the FCC's Written Comments deadline of May 3. The independent consulting firm's study of BPL interference, conducted under contract to ARRL, is *still* pending.

The lack of adequate time for review of each new study has grievously impaired the ability of NAC and THE AMHERST ALLIANCE, and of other commenting parties, to prepare knowledgeable and effective Written Comments in FCC Docket 04-37. This is an impairment of such scale and gravity that it could become grounds for a court to set aside, as procedurally defective, any final rule that might emerge from Docket 04-37.

The FCC could be ordered to do the whole proposed rule process all over again. In that case, the Commission's desire to shave 2 months off the proposed rule process could end up delaying the onset of a final rule by a year or more.

The only remedy for this potential "self-inflicted wound" is a decision by the FCC to extend, significantly, the comment period for Docket 04-37.

In any case, we foresaw this problem back on February 19 -- 2 months ago -- when we filed the joint NAC/AMHERST ALLIANCE Request for a 2-month extension of the comment period. Now that the problem has clearly arrived on the FCC's doorstep, we urge the FCC to act.

2. Need to provide more details on interference mitigation measures. As we stated earlier, we are pleased by the Commission's endorsement of the *concept* of interference mitigation measures. As we have also stated, however, the actual details of what is contemplated are rather sketchy at the moment.

The FCC's current language is like a note in a collection plate: "Dear God, I.O.U. $5.00." It is a promissory note for additional details later.

Unfortunately, commenting parties find it very difficult to comment on details that aren't there.

Again:

The Commission would be wise to re-issue its proposed rule, or at least this portion of its proposed rule, in order to solicit public comments on a more detailed version of the proposed interference mitigation measures.

In The Meantime:

Commenting parties like us will muddle along as best we can, with our ability to comment significantly impaired.

3. *Absence of any "rationale for the rush".* As we have stressed, the Commission has been engaged in a "rush to judgment" on BPL. This "rush" has included the FCC's decision to draft and issue a proposed rule, in Docket 04-37, without the benefit of having read 2 pending technical studies on BPL interference … the FCC's apparent rejection of requests, by 4 different parties, for a longer comment period that would allow commenting parties to consider and address these 2 technical studies … and the FCC's decision to include, in its proposed rule, the functional equivalent of a promissory note for future interference mitigation measures -- instead of details about how the measures would actually work, and what standards they would apply.

To make matters worse, the Commission has not provided any meaningful explanation of, and/or justification for, the exclusion of potentially crucial information from consideration by either those who drafted the proposed rule or those who are now commenting on it.

Like the proverbial traffic cop on his way to handing out a speeding ticket, we have to ask: "What's the rush? Where's the fire?"

The Commission has yet to demonstrate that there is even a *need* for BPL commercialization, given the abundant availability of other broadband technologies, let alone that this need is *urgent.*

If BPL were clearly needed to save lives and/or protect the nation, the FCC might have some justification for moving along at a pace that is otherwise highly questionable under the Administrative Procedures Act and the "due process" clause of the Constitution. However, neither the Commission's statements nor the currently available evidence has provided either a "public safety" rationale or "national security" rationale for the FCC's undue haste.

To the contrary:

The evidence which has been placed On The Record so far, in Dockets 03-104 and 04-37, indicates that BPL commercialization will *jeopardize* both public safety and national security.

The major procedural infirmities we have discussed are made even more difficult to defend by the lack of a clear and credible rationale for them.

Although NAC and THE AMHERST ALLIANCE have no great love for the manufacturers and retailers of BPL technologies, we nevertheless remind them of our earlier observation regarding their *long term* self-interest. That is: Manufacturers and retailers of BPL will be better off waiting an additional 2 months for a final rule -- knowing that a longer comment period will make the final rule more defensible procedurally, and probably more workable substantively -- than finding themselves with a purely "theoretical" final rule, whose effectiveness has been enjoined by the courts, and/or with a functioning final rule marred by major problems that might have been avoided through better-informed public comments.

In this regard, we also remind the BPL manufacturers and retailers of the potential for *tort liability* as a result of BPL operations.

If, for example, it is successfully alleged in a future lawsuit that a jetliner has crashed due to BPL-induced interference with ground-to-air communications, the size of the verdict or settlement could easily dwarf the annual profits from BPL for a given corporation (or even for the entire BPL-operating industry). In determining the extent to which any or all of the defendants are actually liable for the losses, most courts would likely be open to considering evidence regarding what those defendants have done -- or failed to do -- in FCC Dockets 03-104 and 04-37.

In the hypothetical lawsuit that is referenced above, trial lawyers for the plaintiffs would probably begin by suing every institution with any linkage to the incident in question. The list of defendants would surely include the airline that

operated the plane, and the plane's manufacturer, but it would also probably include Aeronautical Radio Inc. (or some competing provider of ground-to-air communications), the manufacturer of the allegedly disruptive BPL equipment and the retailer of the allegedly disruptive BPL services. If these parties were not joined together as defendants initially, in the lawsuit itself, they would quickly *become* joined by their own actions -- as each defendant denied its own responsibility and cross-sued the other defendant(s) as the real culprit(s).

One way or another, *everybody* with a link to the incident would face some kind of an accounting in court.

Unless a standard of absolute liability -- liability without regard to fault -- were applicable, liability would be determined and assigned by a standard of "reasonable foreseeability". That is: Whether a "reasonable person", placed in a given defendant's shoes, could have foreseen the risk of the incident in question and taken reasonable steps to prevent it. If so, the defendant is liable.

Needless to say, some, most or all of the named defendants would assert -- among other contentions -- that it was reasonable for them to presume the BPL technologies were safe because the FCC had approved these technologies. Anticipating this attempted defense, plaintiffs' trial lawyers of the enterprising variety would begin to study the record of filings and other documents in FCC Dockets 03-104 and 04-37. They would be looking, initially, for evidence that aircraft safety problems had been noted in these proceedings. Voila!! See the filings in these Dockets by NAC and THE

AMHERST ALLIANCE, ARRL, Aeronautical Radio Inc. (ARINC) and others. With *that* evidence, it could reasonably be presumed that BPL manufacturers and retailers had, or should have had, knowledge of these aircraft safety problems. Q.E.D. The jet crash was reasonably foreseeable.

The plaintiffs' trial lawyers would also look for evidence in these Dockets to indicate whether a particular defendant, who had or should have had knowledge of these safety problems, had taken reasonable steps to prevent the plane crash by urging the FCC to address these safety problems effectively. If, instead, a defendant had knowingly remained silent, or had even urged the FCC to proceed *without* addressing these problems, then that defendant's liability would be even more clearly established.

At that point, the plaintiffs' trial lawyers would have a solid basis for asserting -- based on the evidence in the public records of FCC Dockets 03-104 and 04-37 -- that the plane crash had been a reasonably foreseeable risk of BPL commercialization *and* that the BPL manufacturer and retailer in question had failed to take reasonable steps to prevent it through their filings with the FCC. Game Over.

On The Other Hand …

Had these hypothetical BPL manufacturers and retailers taken action *now* -- to address possible safety problems by actually *supporting* a 2-month extension of the comment period, and with it the more detailed consideration of possible interference avoidance and interference mitigation measures -- they might have reduced, or avoided, tort liability that could run into millions *or billions* of dollars in the foreseeable future.

Make that the *"reasonably* foreseeable" future.

Incidentally, readers should be aware that the primary author of these Additional Written Comments, Don Schellhardt, is a former law clerk and trial lawyer.

Recommendations To The FCC
<u>If</u> It Proceeds With A Final Rule At This Time

As we have stated, NAC and THE AMHERST ALLIANCE urge the FCC to grant a 2-month extension of the current comment period in FCC Docket 04-37. We also urge the FCC to seriously consider re-issuance of the proposed rule -- in order to make available for public comment a more detailed version of the contemplated interference mitigation measures.

Nevertheless, if the Commission chooses to ignore this counsel and proceed directly to a final rule, we offer several recommendations which may reduce the damage.

1. Re-affirm the decision not to increase maximum power levels for BPL. In light of the evidence presented during the FCC's Notice Of Inquiry on BPL, in FCC Docket 03-104, the FCC was wise not to propose increasing the power levels for BPL.

We remind the Commission that spectrum uses which are subject to interference from BPL are broad and varied in scope. These uses include:

Ground-to-air communications
Military communications
Emergency communications by "first responders" (police, fire, medical)
Medical diagnostic equipment
Amateur Radio operations, including *emergency* communications

Citizens' Band transmissions, including *emergency* communications by Members of REACT
Shortwave reception
Radio astronomy
TV broadcast channels

We urge the Commission to re-affirm, in any final rule on oversight of BPL operations, its decision not to allow BPL to exceed the power levels set forth in Part 15.

2. Establish "BPL-Free Zones" for airports and other facilities. In addition to providing *basic* protection from BPL interference for other uses of the spectrum in general, the FCC should provide *additional* protection for certain specific uses:

(a) Ground-to-air communications;
(b) Military communications;
(c) Emergency communications, including police, fire and medical teams;
(d) Hospitals, which must protect both *communications* equipment and *diagnostic* equipment from interference;
And
(e) Any other uses of the spectrum whose disruption by BPL interference Would immediately endanger lives, national security and/or property of substantial value

We recognize that it will be difficult, if not impossible, to protect uses of this nature when they are *mobile* (as in police cars or ambulances). However, *stationary* facilities (such as hospitals and ground antennas used for communication with aircraft) can be protected by establishing "BPL-Free Zones" around them.

Without additional information -- of the type which careful study of the 2 new technical studies might provide -- we must be somewhat arbitrary in recommending

how large the "BPL-Free Zones" should be. Noting that Aeronautical Radio Inc. (ARINC) has reported ground-based interference awith communications on an aircraft flying several miles away,"worst case" planning appears to be appropriate.

Attempting to "err on the side of caution", and hoping we have been prudent *enough,* we recommend banning any BPL operations within *20 miles* of:

Airports
Ground antennas for ground-to-air communications
And
Military bases, including those used solely by the National Guard

We recommend prohibiting any BPL operations within *2 miles* of:

Hospitals
Police stations
Fire stations
Any separately sited police, fire and/or medical communications facilities
And
Any miscellaneous facilities which are deemed to require a "BPL-Free Zone"

3. Limit BPL authorization to lowest-interference BPL technologies. Given the well-grounded concerns about the existence and intensity of BPL technologies, *and* the fact that communications used for public safety and national security operations (including military operations) are particularly at risk, it is abundantly sensible to limit authorization of BPL operations to the *lowest-interference* BPL technology that is currently available -- *and* to possible future technologies which meet or exceed its performance profile on interference.

At the moment, the lowest-interference BPL technology appears to *the Corridor BPL technology.* All authorized BPL technologies should be required to match, or improve upon, the interference profile of the Corridor technologies.

By mandating attainment of (or improvement over) *the interference profile* of the Corridor BPL technology, rather than mandating use of only the Corridor BPL technology itself, this approach leaves room for future competition with Corridor BPL technology by other technical innovators who may enter the field.

At the same time, it ensures that such competition will not be achieved *at the expense of* avoidable interference with the spectrum. It embraces competition in a way *"raise* the bar" on product quality, rather than lowering it -- and that will encourage *avoidance* of BPL interference, instead of relying solely on "mitigation".

Interference avoidance as the starting point, *plus* interference mitigation to provide additional protection, is much more likely to succeed than a strategy of interference mitigation alone.

Now, during the very earliest stages of possible BPL commercialization, is a particularly good time to set the highest achievable standards for *both* interference avoidance *and* interference mitigation. It will be much, much more difficult for the Commission to displace higher-interference BPL technologies later on -- after they may have developed an entrenched market presence, with established customers and "sunken" investments of capital -- than it will be to prevent them from becoming "entrenched" in the first place.

4. Clarify the structure & enforcement of interference mitigation measures. If the FCC does not re-issue its proposed rule, in order to make available for public comments a more detailed version of its contemplated interference mitigation measures, the FCC should at least make sure that the final rule has sufficient clarity -- *especially* with respect to performance standards *and* enforcement procedures -- to guarantee its effectiveness in mitigating interference.

(a) Set realistic performance standards for mitigation measures. Just as realistic performance standards must be set for interference *avoidance,* by linking acceptable parameters to the interference profile of the Corridor BPL technology, so must realistic performance standards be set for interference *mitigation.*

This is especially true for *adaptive* mitigation technologies, which may find it difficult to protect multiple spectrum uses at the same location at the same time.

Many locations will have *multiple* spectrum uses underway at a given time. For example, simultaneous ham radio operations, shortwave listening, Citizens' Band transmission and radio astronomy could -- and, in some cases, will -- all occur in the same "radio-active" household.

In addition, adaptive mitigation technologies will have to cope with *mobile* communications equipment -- in use, for example, on ambulances and police cars -- as it passes in and out of neighborhoods.

NAC and THE AMHERST ALLIANCE hereby endorse the performance standards proposed by Nickolaus Leggett N3NL of Virginia. As embodied in his April 27, 2004 Additional Written Comments, in FCC Docket 04-37, Mr. Leggett's proposal is as follows:

> Any BPL adaptive interference mitigation must have the ability to accommodate at least three (3) users in the same or different radio services within two hundred (200) feet of each other.

(b) Specify enforcement procedures in greater detail. In any final rule on oversight of BPL operations, those parties who may be adversely affected by BPL interference will need much clearer guidance regarding the specific steps they must take to report damaging BPL interference and assure that it is corrected. By the same token, BPL-deploying companies will need a clearer sense of how, when and where they will be held accountable for any disruptive interference they may cause.

5. Consider revoking approval for all BPL technologies if warranted. If it proves impossible to design and deploy interference mitigation measures which meet the performance standards we have proposed, and/or if the 2 new technical studies of BPL interference indicate that the problem is even worse than evidence in FCC Docket 03-104 has indicated, then the Commission should be prepared to revoke approval for *all* currently available BPL technologies.

CONCLUSIONS

For the reasons set forth herein, we urge the FCC to adopt the recommendations contained herein, including:

1. Extension of the comment period, in FCC Docket 04-37, by 2 months;
2. Re-issuance of the proposed rule, or at least portions of it, to make available for public comment a more detailed version of the contemplated interference mitigation measures;

And

3. If the Commission nevertheless chooses to proceed directly to a final rule at this time, incorporation within that final rule of the "damage reduction" recommendations we have presented today.

Respectfully submitted,

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