

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC. 20554

**In the Matter of** )  
 )  
**Inquiry Regarding Carrier** ) **ET Docket No. 03-104**  
**Current Systems, including** )  
**Power Line Broadband Systems** )  
 )

**To: The Commission**

**REPLY COMMENTS of Nickolaus E. Leggett**  
**N3NL Amateur Radio Operator to the Comments Submitted by the Amateur Radio**  
**Research and Development Corporation**

The following is a set of reply comments from Nickolaus E. Leggett, an amateur radio operator (Extra Class licensee – call sign N3NL), inventor (U.S. Patents # 3,280,929 and 3,280,930 and one electronics invention patent application pending), and a certified electronics technician (ISCET and NARTE). I also have a Master of Arts degree in Political Science from the Johns Hopkins University (May 1970).

My comments are in response to the comments in this docket filed by the Amateur Radio Research and Development Corporation (AMRAD).

I support the comments filed by AMRAD. However, I would like to point out to the Commission some additional consequences of the facts observed by AMRAD.

**AMRAD Observations of BPL Emissions**

The Commission and the parties in this docket should thank the amateur radio operators in AMRAD for their direct observation of the emitted BPL signals in Potomac, Maryland. In their comments, AMRAD reports the following observation: **“The BPL signals radiated were impulsive and sporadic, with bursts correlated with packet**

**transfers. The density of the pulses is expected to increase with the number of active users of the internet in the neighborhood. The radiation bands were centered on 5, 9, and 11 MHz which nominally correspond to international shortwave bands.”**

(Reference 1)

### **Consequences for Short-wave Listeners**

The design of the BPL system with its radio emissions centered in the international short-wave broadcasting bands will have major negative impacts on short-wave listeners such as myself. Most of us use modest radio receivers attached to indoor antennas. In my case, I have an old Drake 2-C receiver attached to a length of wire run inside my condominium apartment.

We use indoor antennas because restrictive covenants and homeowner associations that prohibit any type of outdoor antenna govern most American housing.

Most of us use modest radio receivers because we have limited budgets to devote to the activity of short-wave radio listening.

If BPL is established with significant emissions in the international short-wave broadcast bands, we will not be able to receive many short-wave stations. The short-wave broadcast signals are fairly weak when received by an indoor antenna within a steel-frame building. This means that the local pulses of the BPL will easily over-ride the short-wave signals. This situation will occur for both Access BPL and In-home BPL systems.

### **Access to the International Short-Wave Broadcast Bands**

The international short-wave broadcast bands are established by international treaties and agreements which the United States is signatory to. These treaties at least

imply that each signatory nation should take steps to make sure that the frequency bands should be available for their authorized use within the national borders.

If BPL results in widespread jamming of the international short-wave radio broadcasting bands, then the United States would be out of compliance with the spirit of the treaties and agreements establishing the bands. In effect, the United States would become like the old Soviet Union, which actively jammed international short-wave broadcasting using a widespread network of jamming stations.

I am not a lawyer, so I cannot say if the United States is legally bound to keep the international short-wave broadcasting bands functional. However, I do recommend that the Commission direct its legal staff to investigate this important question. This question also applies to other internationally regulated radio services such as amateur radio and the radio astronomy service (RAS).

### **Social Impacts of Interference to the Short-Wave Broadcasting Bands**

There will be negative social impacts resulting from BPL interference to the short-wave broadcasting bands. Many short-wave listeners use the receivers to study other cultures and to follow world political developments. These listeners will respond quite negatively to having the short-wave bands rendered useless by BPL operations. They will form the opinion that open political discourse is being inhibited in order to serve the financial interests of the BPL providers.

Since the BPL interference will severely impact lower-power short-wave broadcast stations, the transmissions from new and unstable nations will be the least accessible. These are the nations that are the most interesting to the listeners who are examining world political developments.

Many listeners will question the legitimacy of the Commission and its rulemaking processes, if these processes allow the BPL interests to eliminate the access of short-wave listeners to the worldwide resource of the short-wave (high frequency) bands. In the short run the Commission could brush this questioning aside. However, in the long run it will impact the Commission because America is a system based on the consent of the governed. Hostility to the Commission based on BPL interference situations, and other issues such as media ownership regulations, could lead to formal proposals to replace the Commission by an alternative regulatory structure such as having the Department of Commerce regulate civilian communications. Since I do not favor such a basic change, I recommend that the Commission place very careful attention on the legitimacy aspects of its regulatory decisions.

**Recommended Actions**

The Commission should require that BPL emissions not occur in the international short-wave broadcasting bands. In addition, the Commission should ban BPL emissions in the frequency bands allocated to amateur radio and to radio astronomy.

**Respectfully submitted,**

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**July 16, 2003**

Reference 1: AMRAD comments in ET Docket No. 03-104, filed July 7, 2003 (page 2).

**Statement of Service**

I have sent a paper copy of this set of reply comments to the Amateur Radio Research and Development Corporation (AMRAD) by USPS First Class Mail:

**Mr. George E. Lemaster, Vice-President**

**Amateur Radio Research and Development Corporation**

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