

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 National
Academy of Sciences’ Committee on Radio Frequencies

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 a reply to the comments submitted by the National Academy of Sciences’ Committee on Radio Frequencies (CORF).

I strongly agree with the comments by CORF on the importance of radio astronomy and the need to protect its reception of very weak signals. However, I would like to point out that radio astronomers, both amateur and professional, use other frequencies in addition to those specifically allocated to radio astronomy. While the allocated frequencies listed by CORF on pages 2 and 3 of their comments are vitally important, other frequencies are used as well.

Use of Non-radio Astronomy Frequencies for Radio Astronomy

Many of the radio sources observed by radio astronomers are very broadband in nature. This basic fact has motivated radio astronomers to conduct observations in frequency bands not allocated to radio astronomy as well as in the formally allocated radio astronomy frequency bands. For example, when I was an undergraduate astronomy student, the Astronomy department was conducting decameter radio astronomy observations of the planet Jupiter in the 15-meter (21 MHz) amateur radio band. At that time, the interference from the amateur radio stations was low enough that the astronomers could observe Jupiter successfully.

In addition, the educational Radio JOVE project currently has numerous students and experimenters observing the Sun and Jupiter in the vicinity of 20.1 MHz. This project enables students to build and operate their own decameter radio telescopes. The project is operated by educational organizations assisted by the National Aeronautics and Space Administration (NASA).

Impact of BPL on Radio Astronomy Outside of the Allocated Bands

Currently, radio astronomers can work around interference in some frequency ranges that are not allocated to radio astronomy. With widespread BPL systems in operation, this option will be far more limited. Impulse noise from the BPL will be present throughout much of the high frequency spectrum limiting the ability of radio astronomers to observe the full spectrum of celestial phenomena.

Suggested Actions

The Commission should prohibit the operation of BPL systems (both Access and In-Home) within a band around 20.1 MHz. This action would be in addition to

vigorously protecting the frequencies formally allocated to radio astronomy. This additional step would protect the student researchers of Radio JOVE. In addition, the Commission should work actively and directly with the radio astronomy community to identify other bands within the high frequency spectrum that should be a quiet zone free of BPL operation.

Respectfully Submitted,

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July 17, 2003

Statement of Service

I have sent a paper copy of this set of reply comments to the National Academy of Sciences' Committee on Radio Frequencies by USPS First Class Mail:

Mr. Brian Dewhurst

MS W922

National Research Council

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