

March 17, 2005

Ms. Jody Noble, Esquire
Duquesne Light Company
Law Department
411 Seventh Avenue
Pittsburgh, PA 15219

RE: Radio frequency interference; Allison Park, PA

Dear Ms. Noble:

The Federal Communications Commission notified Mr. Victor Rogue, President of Duquesne Light, on December 17, 2002, that it had received a complaint of harmful radio interference apparently caused by power line hardware owned by Duquesne Light. The complainant referenced in that letter is Mr. G. Robert Thacker, Amateur Radio licensee K3GT, (address deleted). Although Duquesne Light responded to the Commission on November 10, 2003, stating steps it was taking to locate the problem, the radio interference continues.

Duquesne's letter of November 10, 2003, expressed concerns about the independent assessment made of the radio frequency interference. Although Mr. Thacker was present at the time of the assessment, he did not actually conduct it. Furthermore, it was not intended to be a comprehensive Radio Frequency Interference investigation. The purpose of the independent assessment was to:

- Confirm that Mr. Thacker was being affected by interference.
- Establish the interference met the FCC's criteria as "harmful."
- Determine to the extent possible if the interference was power-line related.
- Locate the source(s) if possible. If not, to document any obvious and potential problems with utility related hardware. Although the equipment used in the independent assessment located specific poles emitting noise, it could not determine with certainty if a particular noise was the same as the one plaguing Mr. Thacker's residence.

Duquesne's letter indicated that on October 24, 2003, a Duquesne Light interference investigator conducted a 360-degree sweep at 318 MHz. Power-line noise can be heard well in to the UHF range when in close proximity to the source. However, the maximum frequency at which it can be heard tends to diminish as the distance from the source increases. Since the interference reported by Mr. Thacker is at HF, it is understandable that the DLC investigator might not have heard the noise at 318 MHz.

Most modern interference locating procedures suggest starting an investigation such as this at the source of the complaint--directly at the complainant's equipment. A sample

"noise fingerprint" can then be taken directly from the complainant's antenna for comparison with other noises in the field. This technique eliminates the need make unnecessary repairs to eliminate those noises not actually causing the problem. Mr. Thacker reports a Duquesne Light interference investigator visited his home only once in 1998. The investigator did not listen to the noise at Mr. Thacker's equipment in 2003, nor did he verify the problem was resolved after this investigation.

Duquesne's letter also indicated a belief that the remaining noise comes from neon signs along the Route 8 corridor. We have carefully reviewed this case, with some assistance from Michael Martin at RFI Services and others, to best assess the probable cause of this interference.

- Based on GPS measurements, the distance between the nearest neon sign is 0.6 miles. Although interference from a neon sign at this distance is possible, it is unlikely.
- Mr. Thacker checked for noise at odd hours when businesses are normally closed. He reports he still has a high level of noise--*even when the neon signs are off*.
- Several recordings of the noise were made in September 2004 and 2003. An analysis of these recordings reveals the noise is a sparking source and therefore not consistent with a neon sign.
- Michael Martin's analysis suggests the possibility of two sources, since there are two different patterns. One source has a noticeably larger gap than the other.
- A comparison was made between the 2004 recordings and those made in 2003. It is obvious from this analysis that the 2003 and 2004 sources are the same.
- There is no noticeable trace of a noise being generated from a neon light or any other type source.

Please be advised the noise being reported in this case is strong enough to disrupt neighborhood broadcast radio and television services in addition to the Amateur service. All evidence that we have reviewed in this case points to sparking sources that are consistent with power-line noise. **Therefore, we request that Duquesne Light revisit this case and that you update the Commission within 45 days of receiving this letter as to what progress is being made in locating and resolving the interference.**

If you have any questions, please contact me at (717) 338-2502. Technical help is also available by calling Michael Gruber at the American Radio Relay League (ARRL). His number is (860) 594-0392.

CC: Mr. Victor Rogue, President
Duquesne Light Company
411 Seventh Avenue

Pittsburgh, PA 15219
FCC Northeastern Regional Director