ARRL Helps to Clear the Air in Line Noise Cases

NEWINGTON, CT, Aug 21, 2001--The ARRL has successfully "run interference" in several recent cases where electric utilities were accused of causing problems for amateurs. One longstanding case involved a complaint from a Tennessee ham involving suspected power-line interference affecting both the amateur bands and his satellite dish reception. Other successful outcomes occurred in New Mexico and North Carolina, where amateurs had been plagued by line noise.

Paul Fulk Jr, N8ITF, of Springfield, Tennessee, had first complained to Cumberland Electric Membership Cooperative more than two years ago to get his noise situation resolved. While the company claimed it had done everything possible, the FCC kept putting the ball back squarely into the utility's court, advising Cumberland to locate the interference sources and make necessary corrections.

Despite the threat of fines and pressure from the FCC, the utility seemed to be at a loss for a resolution and even tried putting the problem back in Fulk's lap. At one point, Cumberland recommended that he install insulators in the guy wires on his antenna structure to "limit electrical current that circulates through the guy wires due to ground potential gradient differences," and to install a grounding mat system to "lower the grounding resistance of his tower." The FCC said neither suggestion was technically sound. "We know of no power line-related noise problem in such cases associated with antenna guy wires," the FCC's Riley Hollingsworth wrote in June, advising the utility to get in touch with the ARRL.

The ARRL convinced Cumberland to secure the services of Mike Martin, K3RFI, who operates RFI Services in Traceys Landing, Maryland. Martin was able to pin down the problems in fairly short order.

"As of today all interference has been cured," Fulk told Hollingsworth last week. He credited Martin with "an exceptional job" in finding the interference sources.

ARRL RFI Engineer John Phillips, K2QAI.

Since coming to Headquarters in May, ARRL RFI Engineer John Phillips, K2QAI, has been working closely with the Cumberland and other suspected power-line-interference situations. He says even some experts are easily befuddled while trying to pin down interference sources, but that Martin's technique is nothing short of amazing.

"He's almost supernatural in his ability to find line noise," said Phillips, who attended Martin's RFI seminar earlier this year. During the class, Phillips explained, they cruised Baltimore looking for interference sources. "No noise took more than 10 minutes to find," he said.

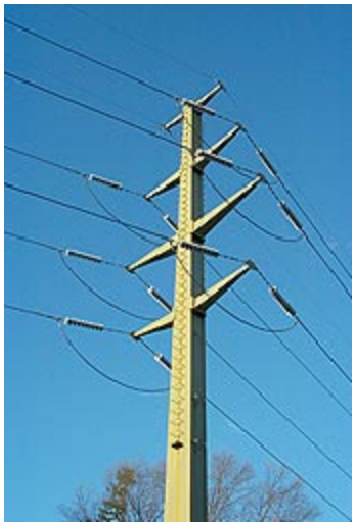
Phillips says line noise usually turns out to be the result of something that's typically fairly easy and inexpensive to fix. "You just need to know the techniques," he said. "With the right equipment and knowledge, it's simple--or at least it looks simple."

He says Martin starts out at the point where the noise is causing interference, listening to--and looking at--the noise to get a handle on its "signature." He said this is to avoid chasing down the wrong noise source.

"In many cases the noise is coming from several sources, and they all sound the same to your ear," Phillips said, citing just one piece of valuable knowledge he picked up from Martin. Each noise source has to be peeled away and resolved individually before the problem can be considered cured.

Another recent case referred to the ARRL was resolved without heavy FCC pressure. Mark Mandelkern, K5AM, of Las Cruces, New Mexico, had reported noise apparently coming from lines operated by the El Paso Electric Company.

"We merely wrote a letter to the CEO of El Paso Electric--with a copy to Riley Hollingsworth--and it quickly trickled down to a local manager who called me with a real sound of apprehension in his voice," Phillips recalled. The contact bore results. Mandelkern wrote Hollingsworth August 14 that the company has been very cooperative and has begun work to completely rebuild a troublesome section of line. "I think the issue with the El Paso company could be considered closed, thanks to you and the ARRL," he said.



[ARRL Photos]

In North Carolina, Jim Scholten, AD1V, had been frustrated by noise from Duke Power Company lines for several years. After a letter went out from ARRL to Duke Power--with a copy to the FCC--Scholten reported that linemen suddenly appeared at the suspect poles, and his noise problems abated. "It was impossible to make the power company do their job without you!" he wrote Phillips.

For his part, Phillips said he's having great success with a number of other cases as well. "They are still in process but appear to be progressing smoothly with all concerned showing cooperation and restraint," he said.

The ARRL Technical Information Service offers additional information on RFI and power-line interference. Amateurs suffering from interference believed to be emanating from power-generation or transmission facilities may contact John Phillips, K2QAI.