

ARRL EMC Committee Report – Doc. #16

July 7, 2024

**for the ARRL Board of Directors Meeting
July 19 and 20, 2024**

**Submitted by Carl Luetzelschwab K9LA
Chair, ARRL EMC Committee
Director, Central Division**

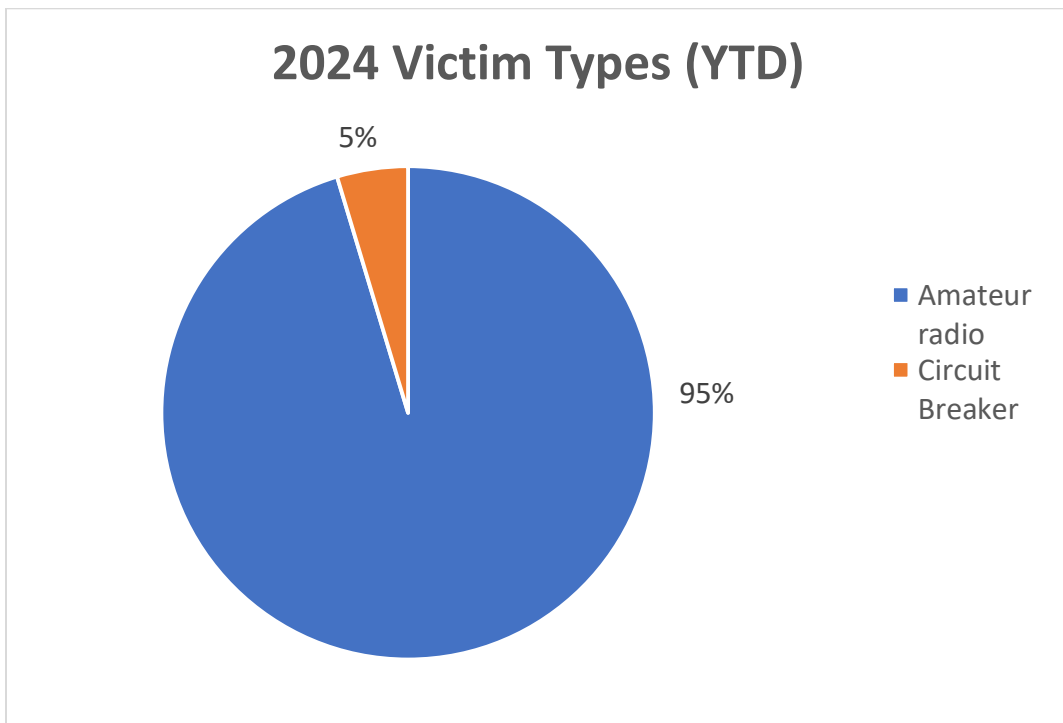
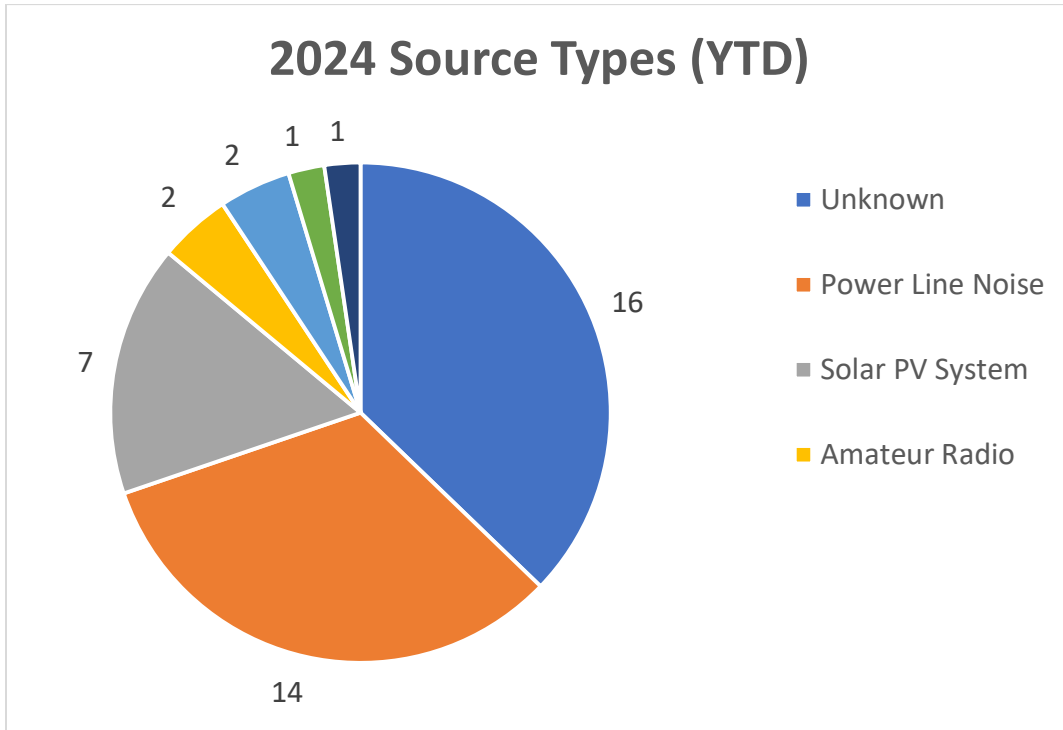


Appendix B July 15, 2024

This is an update from W1EMI on the ARRL Lab activities. This information was not available earlier due to the cyber-attack.

RFI Report (7/15/2024)

Following are the 2024 intake statistics for cases:



Highlights from above:

- 1) Power lines, solar and unknown continue to be the top contributors to the RFI cases coming through ARRL.
- 2) So far this year, 95% of the cases that come to ARRL are from some source interfering with an amateur radio, not RFI from an amateur radio.

Letters

Letters/notices continue to go out to power companies and operators of noisy devices. Our process with FCC requires first that ARRL and the radio amateur try to work through RFI issues, then FCC may get involved. In general, most cases can be worked through without formal notice, some get ARRL letters and far fewer get FCC notices. So far this year, we have issued 14 ARRL letters, 4 FCC letters and 3 FCC second letters.

Power Line Cases

ARRL continues to maintain and develop productive relationships with power companies – some examples are FPL, PG&E, Dominion, Georgia Power, AEP. This allows us, in many circumstances, to forego the ARRL letter to a CEO, and go directly to a contact who has control over RFI investigators, or go directly to an RFI investigator.

Solar PV Systems

Solar PV systems continue to be a significant source of frustration for radio amateurs, especially those whose neighbors have a system installed on their homes. Harmful interference cases from these systems can take months (or more) to get resolved, as solar companies have varying levels of expertise in addressing RFI. Further, harmful interference letters and/or FCC involvement in cases affecting a neighbor can easily become contentious.

Other issues we are running into with solar are related to radio amateurs going directly to solar companies once the solar companies make contact with them – this can put the solar companies in a precarious position, especially if there's no easy solution.

The most challenging cases are those where the system is on the ham's own home and/or where a ham's antenna is very close to a neighbor's PV system. As is the case in many situations with devices, there is leverage with Part 15 harmful interference rules when someone other than the ham is the device operator, but it comes at the expense of the ham's relationship with their neighbor. We hope to work with FCC to come up with a better strategy for addressing the RFI from PV systems.

Notable Device Cases

We have had several cases where we have had issues with device manufacturers this year, the following are of note, and these cases continue to work their way through the process:

- 1) [Progressive Dynamics](#) – they make a charger/converter unit for RV's. The unit (we believe the charger portion) is so noisy it can be picked up by the ham's mobile 2.5 blocks from the camper. They were unresponsive to the degree where we had to have FCC get involved, and now we are about 18 months out from when the case came in, and the issue is still unresolved and with their EMC company.
- 2) [Trimlight](#) – These lights are customizable color LED house lights, and incorporate (at least) a power supply and controller (Chinese made). They appear to have an FCC certification, but like many solar PV systems, the issue is less about conducted emissions and more about radiated emissions in the HF bands (where there are no radiated emission limits). Its another case where FCC had to get involved before the company began to take things seriously. During the course of the case, the company stated, in part, “so we have 5 engineers in Asia working on this with their local FCC testing facilities trying to solve the problem that exists worldwide to all IC-RGB LED systems. Even their engineers state that the entire industry doesn't meet the criteria for FCC and all of these type of controllers fail the testing.”

Having said the above, it appears the company is making progress, although the RFI continues as of the time of this report. We have received new certifications for the lights/controllers, and the testing process appears to be more realistic now. However, final testing has yet to be completed and implemented near the complainants' stations.

Notable Resolved Cases

Some of our more notable resolved cases:

- Electric fence which required two FCC letters and a field inspector before the fence owner took action;
- Synchronized clocks in a school system interfering with 2 meter reception, which took two FCC letters before the school system took action to resolve the case;
- HVAC system with a programmable thermostat, interfering with 2 meter reception, solved by switching to a non-programmable thermostat; and
- Power line case in Connecticut, took at least two site visits to convince the power company it was their equipment. Problem was resolved when the power company took the pole out of service by disconnecting the fuses on the primary. The issue may have been a faulty capacitor bank, or a ground on the pole.

IEEE and ANSC C63

Steve Anderson continues our participation on the IEEE EMC Society, and in the standards development work Ed was engaged in. Steve also has been working with the IEEE hams group, which is considering formation of either a Technical Community or an Affinity Group within IEEE. A couple dozen hams have been meeting fairly regularly from this group.

With respect to ANSC C63, where ARRL has an organizational membership, Kermit Carlson is the Primary representative and Steve Anderson is the Alternate. Steve attended the most recent meeting in Palo Alto, and Kermit and Steve work together to form ARRL positions on any votes that may be required. In addition to Main Committee work, there are numerous subcommittees that member organizations can be involved in. The one most relevant to RFI work is the subcommittee on immunity, which is chaired by Tom Braxton. There has also been discussion of formation of a working group to revise standard 63.29 (concerning testing of lighting products for compliance with FCC Part 15), so we will likely be involved with that group.

National Association of Broadcasters AM Improvement Workgroup

Steve Anderson continues our participation in this group, which is working to improve AM radio through technological improvements, noise studies and other actions. ARRL has largely been involved in noise characterization work, due to our work with the amateur radio community concerning RFI issues.

RFI Presentations/Materials

We continue to do RFI presentations as requested by clubs.