

**REPORT OF THE RF SAFETY COMMITTEE
TO THE
ARRL BOARD OF DIRECTORS**

January 2025

The RF Safety Committee participated in the following areas over the past six months:

1. RF Safety Committee Activities.
2. Monitoring current events and scientific studies regarding RF Safety.
3. Participation in the scientific RF Safety community.
4. Administrative issues.

1 RF Safety Committee Activities

- 1.1 The Committee is still awaiting the release of the FCC publication, OET Bulletin 65 Supplement B, **Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, *Additional Information for Amateur Radio Stations***. The new document is still undergoing the review process by various government entities, as is the publication of the rewritten OET Bulletin 65. This presents a potential problem for exposure advice to amateurs that references these documents, as the outdated versions are still available on the FCC website. An additional wrinkle in this process is that Chairwoman Rosenworcel, in whose office the document awaits approval, will be resigning from the FCC on January 20, to be replaced by Commissioner Carr.
- 1.2 The Committee was contacted by an amateur who was concerned about the RF exposure from some of the new HT's that are being offered for sale with output power levels advertised to be as high as 15 watts. The FCC requires SAR testing of devices that are less than 20 cm from any part of the body, which includes HT's. Since SAR testing is complicated and expensive, it is most often performed by manufacturers who are required to do so for FCC certification, such as cellular telephones and commercial handheld radios. Radios that are for sale only to radio amateurs are not required to be FCC certified and most are not tested. Per FCC rules, amateur licensees are still required to ensure that their transmissions do not exceed the exposure limits and without manufacturer SAR testing, an information gap exists. The lack of testing for amateur handheld transmitters was dealt with by Mr. Tell, K5UJU, in an article in QEX (*R. Tell, Amateur Portable Radios (Handheld Transceivers): Exposure Considerations Based on SAR, QEX Jul/Aug 2021, pp 11-15*), which examined the manufacturer reported SAR testing for commercial handheld devices that were similar in frequency and antennas to amateur handheld devices and extrapolated those results. The FCC has indicated that this method of determining compliance is acceptable in the, as yet unreleased, OET Bulletin 65 Supplement B. To extend Mr. Tell's work to the newly available higher powered handheld transmitters, Dr. Lapin has written a paper that extrapolates the SAR testing data in the FCC database to various transmitter power levels and calculates the maximum transmit time allowed during any averaging period (FCC exposure limits are based on the average exposure during 6 minutes for amateur operators and during 30 minutes for the general public). That paper explains the issues with maintaining compliance with FCC exposure limits for handheld transmitters and explains how to best determine the maximum compliant transmit times for various power levels and frequencies. Two companion papers describe the lower exposure limits that must be imposed on non-amateurs who use amateur handheld radios under the control of licensed amateurs and the ways to obtain and interpret exposure testing information from FCC certified commercial radios. The manuscripts have been reviewed by the RF Safety Committee members and by FCC exposure experts. They are being submitted for publication in QST.

2 Monitoring Current Events and Scientific Studies

2.1 Scientists have warned about the potential dangers of Robert F. Kennedy, Jr. being made secretary of Health and Human Services due to his anti-scientific rumor mongering regarding vaccines and the health effects of electromagnetic radiation.

3 Participation in the Scientific RF Safety Community

3.1 Dr. Lapin continues to serve as co-chair of IEEE ICES TC-95 Subcommittee SC-4: Safety Levels with Respect to Human Exposure to Electromagnetic Fields, 3 kHz to 300 GHz.

3.2 Mr. Butcher continues to serve as the co-chair of IEEE ICES TC-95 Subcommittee SC-1: Techniques, Procedures, Instrumentation, and Computation.

3.3 Mr. Tell continues to serve as the chairman of the IEEE ICES TC-95 Subcommittee SC-2: Terminology, Units of Measurement, and Hazard Communication.

3.4 Dr. Bushberg and Mr. Witkowski continue to serve on the IEEE ICES TC-95 RF Safety Standards Committee.

3.5 Dr. Lapin, Mr. Butcher, Mr. Tell, Dr. Bushberg and Mr. Witkowski will be attending the three-day IEEE ICES TC-95 RF Safety Standards Committee meetings and the COMAR meeting in California this month.

3.6 Mr. Tell, and co-author Dr. Robert Kavet, have recently published a new paper “An alternative approach for evaluating induced and contact currents for compliance with their exposure limits (100 kHz to 110 MHz) in IEEE Std C95.1-2019” in Health Physics, February 2025, Vol. 128, No. 2, pp. 156-166.

3.7 Mr. Tell continues to serve as the chairman of the IEEE EMBS Committee on Man and Radiation, COMAR.

3.8 Dr. Bushberg continues to serve as the vice chairman of the IEEE EMBS Committee on Man and Radiation, COMAR.

3.9 Mr. Butcher, Dr. Lapin and Mr. Witkowski continue to serve as members of the IEEE EMBS Committee on Man and Radiation, COMAR.

3.10 Dr. Lapin and Mr. Tell continue to serve on the work group that is revising the NATO exposure safety standard: IEEE C95.1-2345 Standard for Military Workplaces - Force Health Protection Regarding Personnel Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz.

3.11 Mr. Butcher continues to serve as a member of the United States National Committee of the International Electrotechnical Commission (USNC/IEC) for TC106: Methods for the assessment of electric, magnetic and electromagnetic fields associated with human exposure.

3.12 Dr. Bushberg continues to serve as the Vice President of the Congressionally-chartered National Council on Radiation Protection, NCRP.

4 Administrative Issues

4.1 Dr. William Kaune, W7IEQ, has retired from the RF Safety Committee after 22 years of service. He first joined the Committee in 2002 and has been a valuable addition to the knowledge base of our work. We wish him the best in his retirement.

- 4.2 Dr. Lapin has contacted several medical doctors who are also Amateur Radio operators and members of the Medical Amateur Radio Council (MARCO). The RF Safety Committee was once evenly split between medical doctors and scientists/engineers, and due to MD retirements, the balance has shifted. The Committee will be meeting with these interested medical doctors in the coming year with the aim of adding some of them to our membership.
- 4.3 Dr. Siwiak reviews articles for QST and QEX. He shares submitted RF Safety-related articles with the Committee.
- 4.4 Dr. Lapin is the editor of the ARRL Handbooks 101 and 102, and continues to update the RF Safety section of the Safe Practices chapter, as well as making sure exposure issues are referenced in the rest of the Handbook, where applicable.
- 4.5 Dr. Lapin has participated in the ARRL Electromagnetic Compatibility Committee meetings. Complaints of interference to medical devices, that are reported to the RF Safety Committee, are shared with the EMC Committee, whose expertise includes electromagnetic interactions with all types of instrumentation.

Respectfully submitted,

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Chair, ARRL RF Safety Committee

The ARRL RF Safety Committee

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