

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

July 2026

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 As a result of the emergence of handheld radios for the Amateur Radio service that transmit more than 5 watts, Dr. Lapin published a paper that extrapolates the SAR testing data for commercial radios 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). The original concept for estimating the SAR levels produced by amateur handhelds, which are not generally tested that way, was published by Mr. Tell several years ago in *QEX*. The paper describes the issues with maintaining compliance with FCC exposure limits for handheld transmitters and then explains how to best determine the maximum compliant transmit times for various power levels and frequencies. This paper was published in the February 2026 edition of *QST*.

2 Monitoring Current Events and Scientific Studies

- 2.1 The IEEE ICES TC-95 standards committee is embarking on an update of its premier human exposure standard, *C95.1™-2019, IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz*. The process will examine if any scientific studies performed over the past 7 years warrant changes to the exposure limits. It will also reexamine some of the procedures that have been used for determining safety factors and exposure averaging times.
- 2.2 Dr. Lapin presented a talk in April online to the Sci-Tech Amateur Radio Society, entitled, “An RF Exposure Overview.” The talk examined the scientific basis for the current exposure standards, epidemiological trends that showed the effectiveness of the standards, and some of the misinformation that can be commonly found about the safety of electromagnetic radiation. He will present a similar talk in person at the Northeast HamXposition in Marlborough, MA this coming August.

3 Participation in the Scientific RF Safety Community

- 3.1 Mr. Tell serves as the chair of the IEEE ICES TC-95 standards committee, which oversees the C95.1, C95.2, C95.3, and C95.7 RF exposure standards.
- 3.2 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.
- 3.3 Mr. Butcher continues to serve as the co-chair of IEEE ICES TC-95 Subcommittee SC-1: Techniques, Procedures, Instrumentation, and Computation.
- 3.4 Dr. Bushberg and Mr. Witkowski continue to serve on the IEEE ICES TC-95 RF Safety Standards Committee and its subcommittees.
- 3.5 Dr. Lapin, Mr. Butcher, Mr. Tell, Dr. Bushberg and Mr. Witkowski attended the three-day IEEE ICES TC-95 RF Safety Standards Committee meetings and the COMAR meeting in Florida in January.

- 3.6 Dr. Lapin, Mr. Butcher, Mr. Tell, Dr. Bushberg and Mr. Witkowski remotely attended the online IEEE ICES TC-95 RF Safety Standards Committee meetings and the COMAR meeting in July.
- 3.7 Dr. Bushberg serves as chairman of the IEEE EMBS Committee on Man and Radiation, COMAR.
- 3.8 Mr. Butcher serves as vice-chairman of the IEEE EMBS Committee on Man and Radiation, COMAR.
- 3.9 Mr. Witkowski serves as secretary of the IEEE EMBS Committee on Man and Radiation, COMAR.
- 3.10 Mr. Tell and Dr. Lapin continue to serve as members of the IEEE EMBS Committee on Man and Radiation, COMAR.
- 3.11 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.
- 3.12 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.
- 3.13 Dr. Bushberg continues to serve as the Chairman of the Board and Senior Vice President of the Congressionally-chartered National Council on Radiation Protection, NCRP.

4 Administrative Issues

- 4.1 Dr. Lapin met with officials of the Medical Amateur Radio Council (MARCO) at the Dayton Hamvention. They agreed to compile a list of their members who might be interested in participating with the RF Safety Committee. The 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 any interested medical doctors in the coming year with the aim of adding some of them to our membership.
- 4.2 Dr. Siwiak is a technical advisor for *QST* and *QEX*. He shares submitted RF Safety-related articles with the Committee.
- 4.3 Dr. Lapin is the editor of the *ARRL Handbook 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.
- 4.4 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,

Gregory D. Lapin, Ph.D., P.E., N9GL
Chair, ARRL RF Safety Committee

The ARRL RF Safety Committee

Chair

Gregory D. Lapin, Ph.D., P.E., N9GL
1206 Somerset Ave
Deerfield, IL 60015-2819

Committee Members

Jerrold T. Bushberg, Ph.D., KJ6HDL
7784 Oak Bay Circle
Sacramento, CA 95831-5800

Matthew J. Butcher, P.E., KC3WD
213 N Evergreen St
Arlington, VA 22203-1225

Brian K. Daly, M.S.E.E., WB7OML
3535 Peachtree Rd NE, Suite 520-226
Atlanta, GA 30326-3587

James W. Ross, M.D., M.P.H., W4GHL
851 Kauska Way
The Villages, FL 32163-0082

Kazimierz Siwiak, P.E. (Retired), Ph.D., KE4PT
10988 NW 14th St
Coral Springs, FL 33071-8222

Bruce M. Small, M.D., KM2L
10540 Stoneway
Clarence, NY 14031-2100

Richard A. Tell, M.S., K5UJU
10037 Long Meadow Rd
Madison, AL 35756-4247

Guy L. (Bud) Tribble, M.D., Ph.D., N6SN
15 Cantera Run
Carmel, CA 93923-7703

David Witkowski, W6DTW
514 Santa Marguarita Dr
Aptos, CA 95003-4814

Emeritus Committee Members

Gerald D. Griffin, M.D., K6MD
123 Forest Ave
Pacific Grove, CA 93950-2619

William J. Raskoff, M.D., K6SQL
1769 Escalante Way
Burlingame, CA 94010-5807

Liaison to the ARRL Board of Directors

S. David Propper, K2DP
747 Old Bonhomme Rd
University City, MO 63132-5031

ARRL Staff Liaison

George K. Spatta, W1GKS
ARRL Headquarters
225 Main St
Newington, CT 06111-1400

ARRL HQ Administrative Liaison

Danielle Bialoglowy
ARRL Headquarters
225 Main St
Newington, CT 06111-1400