

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

January 2010

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

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

1 RF Safety Committee Activities

- 1.1 A letter to the QST “Doctor” questioned the safety of operating an Amateur Radio transmitter for people with implanted pacemakers. The published answer contained our standard response about this topic: Only the pacemaker manufacturer and the person’s doctor are qualified to specify the safe operating environment of a particular pacemaker. The “Doctor,” Joel Hallas, was looking for a more definitive statement. Medtronic, one of the largest pacemaker manufacturers, publishes an information sheet about pacemaker EMC that mentions safe distances for Amateur Radios. It states the safe distances from the antenna of an Amateur Radio are 6 inches for transmitters that emit up to 3 watts, 12 inches for up to 15 watts, and 24 inches for up to 30 watts. They don’t mention higher power levels and they state that these safe distances apply to Medtronic devices.
- 1.2 Another letter to the QST “Doctor” questioned the safety of using an HT while it is clipped to the belt. The ham also asked if it would be safer, and work better, to wear a metal construction helmet with an antenna attached to the top. The Committee responded that with the typical duty cycle of ham radio transmissions the 5 watt transmitter pressed up against his belly would not generate an exposure in excess of MPE. With respect to the antenna mounted on the helmet we discussed the fellow who does this at Dayton and that it is a good way to get your picture in QST.
- 1.3 The Committee was informed that a safety question proposed for use in the General question pool similar to ones that we had objected to last year in the Technician question pool; A question about safe levels of current flow through the body. However, due to a typo in the units of the answer the question was withdrawn. The Committee maintains that hams derive no benefit from knowing the exact amount of current flow through their bodies that would be lethal; rather they should be taught how to avoid having any current flow through their bodies.
- 1.4 Mr. Hare responded to a ham’s questions about the RF safety implication of multiple radiators. The ham wanted to know if powers could be added but Mr. Hare described the more detailed analysis needed to ascertain the total exposure from sources at different frequencies, since MPE varies with frequency.

2 Monitoring Scientific Studies

- 2.1 The topic of “wireless electricity” continues to elicit excitement in the scientific press. The Committee still maintains the stance that there are significant RF safety implications of transmitting electricity through the air, either as RF electrical or magnetic fields.
- 2.2 Another topic that refuses to go away is Electromagnetic radiation being blamed for Colony Collapse Syndrome, where honey bee colonies are dying off because the bees leave the hive and never return. A very unscientific study performed in Germany last year blamed cell phones for Colony Collapse. Subsequent scientific studies of the problem showed that it is very complicated, implicating a virus, a fungus, pesticides, varroa mites, and bee nutrition, virtually everything studied except electromagnetic radiation. The latest article from India evidently never heard of the extensive science performed in the US and Europe and again is blaming cell phone towers for the problem.
- 2.3 A relatively small group of scientists whose research and publications have been widely discredited by the RF safety scientific community has formed and is going on the offensive. They have published the “Bioinitiative Report,” which features only the discredited research and ignores the bulk of the research that has been performed on electromagnetic bioeffects. This publication is often quoted by those who wish to place excessive limitation on RF transmissions. This group has now gotten the attention of the new administration in Washington, DC. The IEEE Committee on Man and Radiation, COMAR, sent a response to the President’s Cancer Panel, that their summary of the perceived dangers of RF exposure *“does not provide a balanced and objective analysis of the currently available scientific and medical evidence describing the association of RF exposure and tumor development.”*
- 2.4 The Committee discussed a news article about an angry mob in Washington state toppling two radio towers being constructed for an AM radio station, KRKO. The Earth Liberation Front, ELF, took credit for organizing the mob because they believe that *“AM radio waves cause adverse health effects including a higher rate of cancer, harm to wildlife, and that the signals have been interfering with home phone and intercom lines.”* The FBI is investigating.

3 Participation in the Scientific RF Safety Community

- 3.1 Mr. Hare continues to serve on the ICES (IEEE) SCC-28 RF Safety Standards Committee. He generally shares the voting ballots for changes to the standards with the Committee prior to voting on them.
- 3.2 Dr. Lapin continues to testify about RF safety at zoning board hearings when cellular tower placement is being considered.
- 3.3 Dr. Lapin continues to serve as a member of the IEEE Committee on Man and Radiation, COMAR.

4 Administrative Issues

- 4.1 We wish to recognize and thank Howard Huntington, K9KM, for his many years of assistance to the successful operation of the RF Safety Committee as its Board liaison.

Gregory 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

Robert E. Gold, M.D., W0KIZ
9197 N. Clydesdale Road
Castle Rock, CO 80104-9102

James W. Ross, M.D., M.P.H., W4GHL
9472 Ruffin Ridge Rd.
Mechanicsville, VA 23116-6670

Arthur W. (Bill) Guy, Ph.D., W7PO
18122 60th Place NE
Kenmore, WA 98028-8901

Kai Siwiak, P.E., Ph.D., KE4PT
10988 NW 14th St
Coral Springs, FL 33071-8222

William Kaune, Ph.D., W7IEQ
160 Cedarview Dr
Port Townsend WA 98368

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

Emeritus Committee Members

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

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

Liaison to the ARRL Board of Directors

Open

ARRL HQ Staff Liaison

Ed Hare, W1RFI
ARRL Headquarters
225 Main Street
Newington, CT 06111

ARRL HQ Administrative Liaison

Lisa Kustosik, KA1UFZ
ARRL Headquarters
225 Main Street
Newington, CT 06111