

Loudoun Amateur Radio Group

Regular Meeting Notes May 15, 2021

Venue: Due to the ongoing national health crisis, the meeting was held virtually using Google Meet

- 8:00-8:30 The Google Meeting connection was active for informal discussions.
- Pledge of Allegiance
- President welcome and meeting overview.
- Jim N4FAF reported that the minutes from the March meeting can be accessed via the club web site.
- Steve KN4HOZ reported that the beginning balance in the club bank account was \$10,078.12 at the conclusion of the April meeting. There were \$75 total deposits and no debits. The ending balance is \$10,153.12.
- It was suggested that the club host a party during the holiday season. One suggestion for a venue was the Safety Center in Hamilton. This space had been used in the past. Comments related to the holiday party should be sent by email to elected@k4lrg.org. Mike N4PDY will organize door prizes from HRO or other sources.
- A discussion was held about the club participation in the ARRL Field Day event. The rules for this year allow operators to use their home stations. Operation logs can be coordinated to generate a combined score for clubs and other organizations. Operators wishing to designate their score for LARG should specify **Loudoun ARG** in their Cabrillo file. Additional information will be distributed using the club email reflector.
- Rick N1RM presented information about the new rules from the FCC pertaining to RF exposure. There is no longer an exemption for an evaluation of RF exposure when the transmitter is operating at less than 500 watts. Existing stations must perform a written evaluation by 2023 or if you change something that affects the RF emissions. A good source of information about RF exposure is found at arrl.org/rf-exposure.

An evaluation of RF emissions by a station is performed to determine if the heat generated by radio waves causes significant heating of the skin. This heating occurs when the RF generates more heat on the skin than can be quickly dissipated. Some factors that affect heating are the frequency of the emission, effective radiated power and duty cycle of the transmitter. Long term exposure to RF and its effects are not well understood. A study was done in Washington state and California that studied 2485 deaths of ham radio operators from 1979 to 1984. The most significant finding in the report is that Acute Myeloma Leukemia was found to be a 76% more likely cause of death. The study did not perform any analysis of RF exposure to the hams such as VHF or HF operating or frequency of operation. The cases were chosen only because the person held a ham license.

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Specific Absorption Rate is a measure of external field strength and how it couples to the human body. A reference titled *RF Exposure and You* is available on the ARRL website. Frequencies in the range of 30 to 300MHz are the focus of attention in this reference.

The new guidance eliminates nearly all exemption criteria for evaluation. Some exemptions exist for distances in the far field of the radiation pattern. The far field is defined as distances that are greater than or equal to the wavelength of the RF divided by 2π . Several RF exposure calculators are available online. It is recommended that duty cycle be included in the calculations performed during the evaluation. Also note that different modes of operation (FM, AM, RTTY, etc) have duty cycles associated with them.

It was suggested the 2 meter HTs might be a problem under the new guidelines. The antenna is too close to the head for any exemption. The rules require that an exposure evaluation be performed even if the antenna of the HT is changed. The ARRL is working with the FCC to determine how the rules will affect our equipment.

It was suggested that all operators should complete a course in RF Safety. This especially applies to operators that use their equipment in public venues such as a base station at a rest stop of a race where people may be close to the radiating antenna.

- The meeting adjourned at 9:55 AM.
- Attendance

Jim	K4FW
Kevin	AK2M
Tarek	K9TRE
John	KO4PXG
Kevin	KO4NMN
Paul	N4PD
Frank	K4FWD
Joe	KD4HAX
Barry	KD4BK
Bill	K3WD
Dave	KE4S

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Chris	KT9N
Bryan	KG4UPR
Chris	W4PMP
Eric	KO4MBI
Collins	AB3KC
James	KO4OGS
Jim	N4FAF
Jim	KG4OAP
John	WB2UNA
Marc	W4PSO
Mike	N4PDY
Denny	KF4TJI
Rick	N1RM
Steve	KS1G
Steve	KB1IHN
Steve	KN4HOZ