IN-SERVICE

Text Version

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RF Exposure Rules Implemented

Hale Collins W6RWH
Editor

There is growing concern about the potentially harmful effects of electromagnetic radiation on humans. The FCC has imposed on the amateur community some relatively simple requirements that we evaluate our stations to determine if harmful exposure to radio energy could result to our family and neighbors. You make the evaluation and there are no reports to be sent in. September 1, 2000 was the deadline for all amateur stations to comply with the evaluation requirement.

One might say there is little likelihood that the FCC would ever ask to see the results of your evaluation, so why bother? There are several reasons why you should make this evaluation. First, if there is a likelihood of exceeding the Maximum Permissible Exposure (MPE) for your family or neighbors you certainly would want to prevent it. In the case of my station I found the MPE was exceeded for a person located near the west boundry of my property when the antenna was pointed in that direction and I was transmitting full carrier power on 10 meters. I have noted in my MPE evaluation that I should point my beam south toward a more distant property line in the event it is necessary to tune up at full power.

The second reason we should comply is simply because we regard the law as important and try to obey regulations that are imposed by rightful authority.

Thirdly, in the unlikely event that a concerned neighbor should get on your case about harmful radiation you will be in a much better position if you can show that a written MPE
evaluation has been done and is filed with your license.

OK, maybe I have convinced you to look into this. What is involved? Firstly, refer to the table on the right. If your transmitter's peak envelope power, that is, the CW power of your rig at the antenna, exceeds the power shown in the table for any of the bands, you need to make an evaluation. If not, turn the page and read another article (or write one for the next issue of IN-SERVICE).

Bad news eh? Does your reference to the table say you need to make an evaluation? It still will be easily done, don't despair!

Unfortunately the directions are a little longer than I can put in this short article. Refer to either January 1998 QST Page 50 or if you have the internet a short version of the article can be found at www.arrl.org/news/rfsafety/eval/ or look up FCC bulletin 65 and supplement B. I suggest you use the QST article as printed in the magazine as it has an easy next step using another table. (Table 4 Page 52) This table is also found in FCC supplement B. You can use this table to evaluate your station without doing calculations. This table was omitted from the short version of the article found on the internet. Only if your station doesn't fit the models used in the table will you need to make your own calculations.

I encourage you to make this evaluation for the reasons stated above. File your evaluation with your license and be satisfied that you have complied with the regulations.

I personally am not too concerned about the supposed dangers of RF radiation. Forty-eight years ago when I was a student engineer with Collins Radio Co. in Cedar Rapids IA I was assigned the task of converting a 10KW FM broadcast transmitter to 30 MHZ for research use. I added inductance to the tank circuits, adjusted the interstage couplings and got it going on its new frequency. The transmitter was then disassembled and shipped to Love Field in Dallas TX for installation in an all metal hangar. In Dallas I got the transmitter reassembled but had no antenna to test it on. Art Collins came down and instructed us to put up a temporary dipole INSIDE THE HANGAR to use as a load while tuning-up the transmitter. I was wary, but did as I was told. When we got that 10KW bouncing around inside that hangar you could draw RF arcs off off the airplane wings! Why the whole thing didn't blow up I will never know. You can be sure, however, that I didn't leave that power on any longer than I had to!

And all that RF radiation didn't hurt me, hurt me, hurt me, hurt me.

Band	RF Power (Watts) at the antenna	Band	RF Power Watts
160 Meters	500	70 cm	70
80	500	33	150
75	500	23	200
40	500	13	250
30	425	SHF (all bands)	250
20	225	EHF (all bands)	250
17	125		
15	100	This is Table 1, Jan 1998	
12	75	QST, Page 50	
10	50		
6	50		
2	50		
1.25	50		

KD1R Red Cross Communications Coordinator

Any of you interested in a fulfilling, challenging opportunity? You too can be a member of the American Red Cross Disaster Human Resources. That's the long version for ARC DSHR. I have been a member now for nearly seven years. Nearly all of us are volunteers from our local Red Cross chapters. Just like the one down the road from you. We all have a special talent that we bring to the table. Some like myself are involved in providing support for the direct services. Many also serve as the direct contact that you may be familiar with at a shelter, or may have seen at a fire in your neighborhood. Providing warm drinks and snacks to the firefighters while others of the team are helping the affected individuals.

The role I fill is that of a Coordinator in the Communications function. I am really proud of having advanced to this level in the organization. More importantly our function is one where you need to have a really good understanding of how our communications tools work. We are responsible for the following types of equipment; Fax machines, telephones, HF/VHF/UHF Radios including repeaters systems as well as a wide variety of satellite tools. We have some really neat toys to put into action during a recovery effort.

For example, the first day I was here we installed a VHF Low band base station at a Service Center so the Mass Care folks could contact our Emergency Response Vehicles (ERV's) on their rounds delivering food to the affected area. It comes as a kit in waterproof shipping container. Consisting of a 100 Watt Vertex FM radio on 47.42 Mhz, 100 ft. of Coax, a Phelps Dodge commercial antenna, an extension cord and power strip and a 30 amp power supply. The unit is also capable of operating on vehicle power if needed,. This took about two hours to figure out where I needed to put it on the building. Gaining access to the roof and then running the cable so that it would not get pinched in doors or otherwise presenting a safety concern to usual users of the building. Convincing the building supervisor that we would not harm the building or compromise the building security with our installation.

At the same time I was putting this installation up other members of our team were commencing to set up the operational headquarters in a vacant bank office. We had already determined that there were 25, 25 pair cables we could take advantage of for our needs. We did that by toning out the wires and ensuring ourselves they were still good. Next thing we knew it was 7 PM and we were finishing up the last of 16 telephone lines of the 30 that we had ordered. Now our team consisted of two local volunteers and our officer Jan Kinsella from Spokane Washington and myself.

All the while we were installing the telephones others from the Logistics function were installing the tables needed to hold the phones. Plus our Computer Operation specialists were installing computers and printers needed for the headquarters to operate. We walked into a vacant bank building at 0800 and 12 hours later the HQ staff were relocated and operational in the new spaces. Sunday we put the finishing touches on a few of our problems from Saturday, with the help of a local volunteer who returned to help us on Sunday as well.

I had contacted Terry Redding via e-mail with the thought that we could get together. Regrettably that was not to be. My schedule did not allow me to do this. Now I find that I am about to head home after a frantic week and a half of dealing with phone companies (Cell and Wire). Setting up phone lines at the service center and then going back to move them to a smaller room as the operation is downsizing. It is a good feeling inside to know that I helped others to be able to deliver the services that Red Cross is so well known for. If you would like to join us let me know jot me a note at kd1r@arrl.net . Or give your local Red Cross Chapter a call and offer your services.

Ralph T. Stetson III KD1R
kd1r@arrl.net

ASCRA SETI SCOREBOARD

November 1, 2000

Call/name	Data units completed		
WB6OTG	1056	NØOXK	163
KGØII	358	W6LMJ	119
Rod Schall	301	KD1R	85
KAØVTB	247	Ernie	49
Hale Collins	219	KØBKZ	21
Joe N5OVO	170		

For information on the Search For Extraterrestrial Intelligence and the ASCRA group go to:

http://setiathome.ssl.berkeley.edu

Seti Improves Software New Version 3.0

An improved version of the seti software has been made available from the seti web site referenced above. The new version is much improved in terms of its mathematical sophistication and has been implemented because of the tremendous response to the setiathome project. In short they have so much computer time available they can do a better job of analyzing the data. If you want to know more about the new program there is lots of detail on their web site.

At present they will accept data group analysis using either the old software or the new. Shortly they will require conversion to the 3.0 version by everybody. If you are now using the “setathome screen saver,” and plan to continue, you

can download the new version from the setiathome site.

If you are getting tired of all that wear and tear on your hard drive, you may decide this is a good time to drop out.

Editor

ASCRA NETS

20 METER NET
Frequency 14.287 MHZ 1530 Central Time Sunday
Net Control
Ernie, WB2UJL and Terry, W6LMJ and others.

Again here are the names and call signs of ASCRA members and others that have checked into the 20M NET since July lots of new names. Hope I got all of the calls right.

Ernie

WDØARL, Ed Gordon
NØBGG, Larry Oiler
KØBKZ, Gene Chadwick
WØDZX, Dave Atkins
NØELM, Fred Troeh
NØGMP, Dave Jeffries
WWØHSN, Lee Harmon
WAØIBS, Andy Ferrara
KGØII, Bob Farnham
NØJHX, Gary Martin
NØLRA, Nelson Kilmer
KØNXS, Steven Cobb
KGØTQ, Steve Fagan
WAØPTG, Melvin Francis
NØWZH, Steven Hampton
KGØXU, Michael Hahn
KD1R, Ralph Stetson
W2TFT, Tom Thatcher
KB2TN, Boris Golovchenko
WB2UJL, Ernie Miles
K4EZR, Jim Terry
N4JB, Jerry Ballard
KA4LBI, Brooks Barnes
W4TWO, Paul Hunt
KC4WAO, Gene Schaufler
N4WTW, Mike Glowaski
KD5BSE, Cherl Hudson
N5ECP, Jeff Salmons
W5HKY, Barbara Redding
N5LCL, David Gates
W5WLM, Bill McKinney
W6LMJ, Terry Redding
W6RWH, Hale Collins
W6UZV, Geo. Propst
W7FDL, Floyd Lehman
WB7PPP, George Kendall
WA7TBP, Geo. Needham
N7ZA, Bruce Wade
K8QA, Mike Oiler
W8QK, Muirl Robinson
KB9JLC, Ken Collard
N9NF, Mike Herman
KA9QFJ, Bill Hommel III
WA9YWK, Keith Peterson

West Coast 75 Net
Frequency 3917 KHz 0530-0600 Pacific Time Mon-Sat
Net Control Bob Laudie WA6SZT

Lamoni IA 2 Meter Net
Frequency 146.73/13 MHz 1930 Central Time
Net Control Larry Oiler NØBGG

Please help pay the cost of printing and mailing this newsletter. Send your contribution to ASCRA, Box 73, Independence MO 64051

Send comments, letters to the editor or suggested articles to Hale Collins, Route 1 Box 228, Lamoni IA e-mail w6rwh@arrl.net

From The President

My balun problem was temporary and after the water drained out of the balun or coax, it worked normal again.

Many are working on antennas and Muirl is moving, we hear, to Arkansas. Jeff, N5ECP, a good friend, is on his way to help get him back on the air with some sort of antenna ASAP.

Others are also making changes in antennas getting ready for the cold weather. Dick Smith donated his tribander for use by the ASCRA station at the Auditorium. This will get that station back in shape for use again as it has suffered some antenna damage in the past. An antenna party hasn't been scheduled yet to care for that installation.

The grass in my yard is cut short and the calmed wind hasn't wiggled a leaf for 2 days. Even so the leaves are dropping about 10 per second. My work is cut out for me in just a couple of days.

Have you sent a picture yet? We have plans to set up a web site with your pictures but we need something from you to make it happen. Please send them to:

Bob Farnham
RR 2, Box 23
Lamoni, IA 50140

Can you come up with an article for the IN-SERVICE? The need is real, as Hale can tell you. He needs your help keeping the IN-SERVICE good reading. You can do better than I just did!

We need your help!

73's, Ernie WB2UJL
6 Frederick Dr.
Apalachin NY 13732
e-mail erniemiles@aol.com

Letter to the Editor

I enjoy the updates & info very much. Keep up the good work. I Just upgraded to General, but have no HF equipment yet. I don't want to put up any antennas because we may be moving to Indiana next Spring when I retire.

73, Earl Coolman

WBØBHP Omaha NE

We will look forward to hearing you on the net when you retire Earl.

Hale

Melvin Francis is looking to buy a good used HF transceiver and a 2M handheld. If you have something you think he might use call him at 816 364 1689.

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Publication of the Association of Saints Church Radio Amateurs

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