



Ofcom Consultation:

Measures to require compliance with international guidelines for limiting exposure to electromagnetic fields (EMF)

Update by the Radio Society of Great Britain

1st November 2020

Ofcom is planning to require all of its licensees to comply with the ICNIRP general public limits on exposures to electromagnetic fields (EMF). This includes amateurs, so it is almost certain that we will need to make assessments of EMF arising from our transmissions and keep records.

The [first Ofcom consultation](#) on these proposals ran over the period February to June 2020. [RSGB responded](#), along with 254 individual amateurs, citing the lack of evidence of any harmful effects and the disproportionate changes proposed. Following an Ofcom statement in October, this has now been followed by a [second consultation document](#) on implementing the proposed regulations including some changes resulting from the first consultation.

RSGB is currently working on detailed comments and suggested amendments to the second Ofcom EMF consultation. We are also preparing our own guidance to help all UK radio amateurs to assess compliance and keep the necessary records.

Ofcom Calculator

Along with the second consultation, Ofcom are trialling a [spreadsheet calculator](#) that can be used as a basic screening tool. Wherever compliance can be demonstrated using the Ofcom calculator, the job's done – amateurs would only need to keep the necessary records (by print or saving the spreadsheet files) and remembering to update for a change of operating circumstance.

RSGB's practical guidance will include how to use the Ofcom calculator. For example, the calculator requires 'EIRP' as an input, so we are developing an additional front sheet to help users calculate their time-averaged EIRP from known station parameters such as transmitter power, cable type and length, transmission mode, transmit/receive duty cycle and antenna type/model.

It is also important to understand that the Ofcom calculator is conservatively designed first and foremost to avoid false indications of compliance, so if that first screening gives discouraging results, that does **NOT** mean an automatic "fail"! It only means we need to take the assessment to the next level of detail, and repeat it using more accurate methods. We are working on a flowchart to guide amateurs through this process.

More Detailed Assistance

RSGB volunteers are already using advanced computer modelling to create much more detailed and accurate estimates of RF exposure in the near field of the antenna and close to ground than the simplified Ofcom calculator can provide.



A large number of practical antennas at 1.8 MHz to 1.3 GHz have already been modelled, and the mass of detailed data is then being analysed to identify station configurations that are either:

- 'inherently compliant', meaning that no further assessment is required, only record-keeping; or
- 'normally compliant', meaning that compliance can normally be achieved by following good radio communications practice, eg mounting antennas at a reasonable height above ground and clear of obstructions or people.

These two categories are expected to include almost all practical antenna configurations used by Foundation licensees, as well as many other practical cases at Intermediate and Full licence levels. We are also calculating spatial contours around each of the modelled antennas showing the maximum transmit power for compliance with the relevant ICNIRP guidelines. These will be valuable references in cases where an even more detailed assessment is needed.

Future Guidance

Appropriate guidance will be prepared on other valid mitigation measures, such as ensuring that no person is present in a non-compliant location before commencing transmission. Amateurs are particularly able to exercise this kind of close supervision.

RSGB plans to extend current 'good RF housekeeping' guidance for managing EMC issues to include good practice for compliance with EMF exposure limits. We also plan additional training and amendments to the examination syllabus to enhance awareness of EMF issues alongside those of EMC – because in both cases, awareness of the issues is the best way to avoid any potential problems.

1st November 2020