

RED implementation: open source scene threatens to be excluded from radio technology

Dear Wolfgang and others

Thank you for forwarding this article to me. This issue has been around for several years now.

The European Commission has been considering action under the Radio Equipment Directive to limit access to embedded software (firmware) in radio devices and so prevent modification for other uses. The primary driver for this initiative is cybersecurity, the prevention of network disruption and the hacking of IoT (Internet of Things) devices which can include such items as children's toys and domestic WiFi routers.

Now the proposal is to create a Delegate Act under Article 3(3) of the RED. The Directive itself will not be modified. The Delegated Act is currently being drafted as is a Standardisation Request. The draft appended by Mr Breton has now been superseded by an updated draft presented at EG RE (11) and not yet in the public domain. The Request has been made more high level and establishes principles and criteria rather than technical issues.

The Delegated Act has gone through internal Commission procedures and the next step in the coming few months will be publication on the Better Regulation Portal **where it will be available for public comment.**

There are concerns not only for free software access but also for the ability of radio amateurs to modify equipment. However, there is very strong political will and pressure supported by national regulators and many manufacturers' organisations for this legislation. Our ability to change anything is very limited in my opinion.

We will not know until all the details are fully resolved. Without doubt I suspect that anything affecting the "*compliance*" of the equipment will be locked down. That could include perhaps increasing power or changing frequency of operation.

Background to Delegated Act

For information I will give a brief history of this Commission regulation which I previously circulated to the EMC Committee and discussed at the 2020 IARU VGC and other forums, so apologies for duplication.

There are concerns within the European Commission regarding reconfigurable radio system, including software defined radios, routers and network technology. The Commission issued a Public Consultation with a closing date of 14th September 2020.

The Radio Equipment Directive 2014/53/EU (RED), establishes a regulatory framework for placing radio equipment on the market, ensuring a Single Market for radio equipment. The scope of the RED concerns devices that use the radio spectrum for communication and/or radio determination purposes. All internet-connected wireless devices (e.g., comprising the IoT), for example, fall under this Directive. The RED ensures that radio equipment, at the moment of its placing on the market respects the essential requirements of the Directive. This is also clarified in the RED Guide. However, new software may alter the safety or behaviour of the equipment.

It should be noted that *ANNEX I* of the Directive [EQUIPMENT NOT COVERED BY THIS DIRECTIVE] in Paragraph 1 covers:

“Radio equipment used by radio amateurs within the meaning of Article 1, definition 56, of the International Telecommunications Union (ITU) Radio Regulations, unless the equipment is made available on the market. The following shall be regarded as not being made available on the market: (a) radio kits for assembly and use by radio amateurs; (b)

radio equipment modified by and for the use of radio amateurs; (c) equipment constructed by individual radio amateurs for experimental and scientific purposes related to amateur radio.”

A potential problem with Reconfigurable Radio Systems (RRS) was highlighted by the Commission at the TCAM WG, where IARU is represented. In 2017 an Expert Group was established (Expert Group E03413, EGRRS), to examine the issues.

IARU was represented on this group and made a presentation in November 2017 demonstrating the amateur radio usage of spectrum as an example use case and pointing out that amateur radio operators are able to use commercial radio equipment to build a pan-European wireless digital network. These radio links are either point-to-point or point-to-multipoint (for user access) using frequencies mostly at 2.4 and 5.7 GHz. These frequencies are available on a secondary basis to the amateur and amateur-satellite services as detailed in Article 5 of the ITU Radio Regulations and in CEPT European countries by means of ERC Report 25, the European Common Allocation table.

Among the drivers behind the Commission initiative is:

- Increased security and safety for EU citizens in the digital society and economy.
- Increased protection of personal data and against frauds (if and when delegated acts pursuant Articles 3(3)(e) and/or (f) of the RED are applied in parallel).
- Increased capacity of producers in the European Union to make their products secure.
- Increased consumer trust in the Digital Single Market and the digitization of traditional goods.

An issue that has also been in the background which has not yet been fully resolved is historical RLAN (Radio Local Area Network) interference to Weather Radar.

European Commission DELEGATED REGULATION

As part of its consultation process the Commission initiated a Roadmap with a feedback period 28 January – 4 March 2020. There were 276 responses, most of which were against the proposal. A large number of these responses were from the free software community.

IARU responded pointing to the research and self-training and emergency support activities of radio amateurs.

At the last meeting of the Expert Group on Radio Equipment (formerly TCAM) an information document in the form of a series of Questions and Answers was circulated (*EG RE (06)06 - RED Q&A*). The response to the IARU question is at Point 14:

“14. Can a delegated act under Articles 3 (3)/4 of the RED include in its scope, for example, radio amateur equipment?”

According to Annex I to the RED, radio amateur equipment is excluded from the RED unless the equipment is made available on the market. The same would apply with respect to the applicability to radio amateur equipment of delegated acts under Article 3 (3)/4 of the RED.

It does mean, however, that if such equipment is included in a delegated act under Article 3 (3) (i), that the user (radio amateur) will not be able (due to the features that will be incorporated/installed in the equipment) to use or download any software, save for the software that will not affect the compliance of the equipment.

With respect to software uploading, this equipment, if it is not made available on the market, it is outside the scope of the RED and the user always remains, at least pursuant to the RED, free to upload any software. Such equipment will not (and cannot) be within the scope of a

delegated act adopted pursuant to the provisions of Article 3 (3) (i) and 4 of the RED (or any other provision of the RED).”

Following on from the roadmap consultation period there were targeted surveys focussing on security and GDPR. IARU decided not to participate in this. One difficulty for radio amateurs is that radio amateurs are not permitted to encrypt the contents of radiocommunication messages they generate under the provisions of their licence (except in specific circumstances.)

As a next step the Commission initiated a Public Consultation process finished on **14 September 2020**. IARU submitted a response - thanks to ÖVSV for help in this. There is extreme pressure on the Commission from Parliament for action. Not only is there the Delegated Act under RED but there may be future action under the CyberSecurity Act (CSA).

I continue to monitor this matter at the Expert Group on Radio Equipment and will be seeking help from Member Societies to respond to the public consultation when appropriate.

Séamus EI8BP
Chair, IARU R1 PRC