

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D. C. 20554**

In the Matter of )  
 )  
Amendment of Part 97 of the Commission’s Rules ) RM-11828  
Governing the Amateur Radio Service Rules )  
Concerning Permitted Emissions and Operating )  
Privileges for Technician Class Licensees )

To: The Commission

**REPLY OF PETITIONER  
ARRL, THE NATIONAL ASSOCIATION FOR AMATEUR RADIO**

ARRL, the national association for Amateur Radio, formally known as the American Radio Relay League, Incorporated (“ARRL”), is Petitioner in the above-referenced proceeding. ARRL submits these comments in reply to the comments submitted to date by others in this proceeding. As set forth below, the record fully supports the Commission’s initiation of a rulemaking proceeding to update the amateur Technician class license.

**The Entry Level Technician Class License Needs Updating in Today’s Digital World**

It has been more than a decade since the privileges of the amateur radio entry level license have been evaluated. The rule changes requested by the ARRL in its petition are modest. The ARRL undertook an evaluation of its efforts to attract and retain amateur licensees. The results indicated, *inter alia*, that the increasingly rapid pace of change in communications technologies, coupled with the national need for self-training in Science, Technology, Engineering and Math (core “STEM” subjects), require adding privileges to the entry-level amateur radio class to reflect the burgeoning interest in digital technologies and social interaction. Updating the Technician class privileges is the sole subject and intent of the ARRL petition.

The ARRL made its request because of the gap between today's digital technologies and the privileges accorded by the current entry-level Technician license. On bands where signals most often travel 1000 miles or more, Technician class licensees have no privileges that permit use of any digital technology. They are permitted to use only Morse code (CW), notwithstanding that Morse code proficiency as a licensing requirement was eliminated more than a decade ago from both International Telecommunications Union (ITU) and FCC requirements.

Morse code use is continuing among radio amateurs, including with integration into worldwide Internet networks that decode and transmit identifying information. We proposed no change to current privileges for Morse code. But the interests of young STEM candidates understandably lean toward digital technologies and the accompanying computer programming aspects. This is what they grow up learning, and this is where developing knowledge and expertise is most likely to lead to good job opportunities, public service, and development of future innovations and services. These purposes serve the purposes of amateur radio as set forth in the Commission's Rules governing the amateur service, yet roughly one-half the amateur population cannot participate in the promise and opportunities presented on the frequencies of interest.

In light of the need for privileges relevant to today's technology environment and of interest to candidates, the ARRL made a proposal to update the rules that is both balanced and modest. If adopted, there would be no change to the operating privileges for all license classes other than those of the Technician class. In recognition that Technician is the entry level and that entrants have a wide variety of interests that are not being met by the outdated restrictions on Technician class privileges, we proposed to add limited digital and voice privileges on frequencies below 30 MHz, which are the frequencies where distant connections are possible.

The ARRL's petition sets out a balanced approach that retains substantial incentives for Technician class licensees to improve their knowledge and skills to gain additional privileges by successfully passing the more difficult General and Extra class examinations. At the same time, it allows them to be exposed to the possibilities inherent in worldwide digital and voice communication in a practical manner.

### **Comments Filed on ARRL's Proposal**

Many commenters express either support for the ARRL's proposal in this proceeding, or support for its intent but suggest refinements. The record fully supports the Commission's issuing a Notice of Proposed Rulemaking to consider rules to update amateur Technician class privileges so that they will be more relevant and attractive.

There are a number of comments that address subjects in other open proceedings, rather than the Technician class privileges that are the subject of this proceeding. In particular, we note that a number of comments are cross-filed in proceedings such as WT Docket No. 16-239, RM-11708, RM-11759, and RM-11831, and that these comments focus on subjects under consideration in those proceedings rather than the subject of this proceeding. Those filings should be considered in the proceedings that they address, rather than here. The ARRL petition in this proceeding addresses only Technician class privileges.

There are several common subjects in the comments that do address Technician class operating privileges and opposed to the ARRL's proposal. Some commenters oppose granting additional privileges to Technician class licensees because they fear granting the requested privileges might remove the incentive to continue to learn and upgrade licenses. These concerns are not unjustified. There are substantial spectrum blocks to which Technician class licensees would acquire access only upon successful completion of the General class examination, and more

yet when they pass the Extra examination. Another substantial incentive for many is the privilege to use increased power, from 200 to 1,500 watts. Historically, access to additional spectrum and substantially more power have proven to be important incentives to upgrade, and there is no apparent reason for the importance of these incentives to lessen in the future.

Some other commenters' opposition appear to be based on fears of increased interference potential due to the additional users of digital modes. Other objections focus on a disagreement on the definition of encryption for purposes of masking the content of certain digital signals.

With regard to the potential for increased interference, we are ready to welcome all new amateurs. It is improbable that all, or even a majority, of Technician licensees suddenly would develop a passion for the same digital technology. Our hope and expectation is that many will engage with the digital modes on the high frequency spectrum at issue, but it is unrealistic to suggest that every Technician licensee, blessed with new privileges, would suddenly appear on the same band.

In any event, there are families of digital technologies, many of which use the spectrum very efficiently. For example, a digital mode released in 2017, known as FT8, uses only about 90 Hz of spectrum per signal. Thousands of contacts are completed every day within a 5 kHz sliver on each band.

The experience with FT8 clearly demonstrates the attraction of the digital modes AND the spectrum efficiencies that can be achieved. Of course, the FT8 and related digital modes are specialized and for the specific purpose of checking propagation and making only very short contacts. There are different and wider digital modes that serve other purposes.

An aspect of FT8 worth noting is that it is a unique digital mode developed by a radio amateur for amateur radio purposes, but with wide-open possibilities for other uses. It is but one recent example of the fruits of the continuing innovation and experimentation taking place in the amateur service. Today, experimentation is often present with over-the-air use of digital technologies. Digital is “where it’s at” for innovation. This is why opening up limited digital opportunities to new radio amateurs so clearly would serve the broad public interest as well as the specific purposes of amateur radio in experimentation and innovation as enumerated in the governing FCC Rules.

The discussion that some commenters have filed regarding disagreement on the definition of encryption for purposes of masking the content of certain digital signals is out of place in this proceeding. Whatever the outcome, this subject does not affect Technician class licensees any differently than all other amateur licensees and should not delay initiation of a proceeding to consider updating Technician class privileges. Given the pendency of those issues in WT Docket 16-239, we would expect that resolution of such issues in that proceeding will be well over before final consideration of Technician class privileges as proposed by the ARRL in this proceeding.

The ARRL stated in a recent filing in WT Docket No. 16-239 that it is in the process of facilitating discussion of differences expressed in comments filed in several proceedings on the requirements in the Commission’s Part 97 Rules, and will report to the Commission thereon. In the meantime, this is no justification for holding up unrelated proceedings such as this. Such rules apply to all radio amateurs operating under Part 97, including Technician class licensees now and in the future.

## CONCLUSION

For the reasons stated, the ARRL respectfully requests that the Commission proceed to initiate a Notice of Proposed Rulemaking at its earliest opportunity for the purpose of updating the amateur Technician class license. Technology has changed dramatically in the amateur radio domain, as it has in most other communications services, and the ARRL believes the requested Technician license enhancement would foster the regulatory goals for the amateur service and continue to increase the amateurs' historical experimentation and service in a meaningful way.

Respectfully submitted,

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