

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC. 20554**

**In the Matter of** )  
 )  
**Amendment of Part 97 of the** ) **RM-10786**  
**Commission’s Amateur Radio** )  
**Service Rules to Eliminate Morse** )  
**Code Proficiency Testing** )  
**Requirements for All Classes of** )  
**Amateur Licenses** )

**To: The Commission**

**COMMENTS of Nickolaus E. Leggett  
N3NL Amateur Radio Operator**

The following is a set of comments from Nickolaus E. Leggett, an amateur radio operator (Extra Class licensee – call sign N3NL), inventor (U.S. Patents # 3,280,929 and 3,280,930 and one electronics invention patent application pending), and a certified electronics technician. I also have a Master of Arts degree in Political Science from the Johns Hopkins University (May 1970).

My comments are on the elimination of the amateur radio Morse Code testing requirements proposed by No Code International (NCI) in its petition to the Commission.

**Evaluating Morse Code as an Impediment to New Amateur Radio Operators**

NCI’s main point is their concept that Morse Code testing is an impediment to the recruitment of new amateur radio operators. *“In fact, NCI believes that the maintenance of outdated Morse requirements has been the biggest single impediment to the recruiting of otherwise qualified “new blood” (the more technically inclined and the younger generation, in particular) into the Amateur Radio Service.”*

Examining the licensing data for the Technician Class licensees can test this concept. The Technician Class license has been a no-code license for some time now. The Technician Class license offers frequencies that are appealing to technically inclined amateur radio operators for activities such as:

- Computer networking
- Amateur television
- Earth-Moon-Earth (moonbounce) communication
- Radio control of remote objects
- Microwave experimentation and communication
- Amateur radio satellite communications

Did the change from a 5 words-per-minute (WPM) Technician Class examination to a no-code Technician Class examination result in a flood of new licensees into the amateur radio service?

I do not know the answer to my question above, but it is certainly relevant as an indicator of the influence of Morse Code testing on prospective amateur radio licensees. For this reason, I am requesting that NCI, other commentors, and the Commission itself examine the data and present quantitative evidence on this question.

### **Morse Code and Emergencies**

NCI also states that Morse Code has no use in emergency situations and it has been completely replaced by automatic digital technologies. This may not be true for all types of emergencies that can occur. For example, in a megadisaster situation, it may be necessary for amateur radio operators to improvise radio communication equipment.

Attorney Donald J. Schellhardt in comments in docket RM-10412 first introduced the

concept of a megadisaster. Schellhardt defines a megadisaster as “A life-threatening disaster, either natural or man-made, of sufficient intensity and scale that it: (a) destroys and/or disables much, most, or all of the basic infrastructure and services over an area of *at least* 10,000 square miles, for a period of *at least* weeks or months; and (b) prevents or significantly restricts the flow of relief supplies and personnel, from areas which are not directly affected, for a period of *at least* two weeks.” (Comments of April 21, 2002).

Morse Code is well suited for improvised communications where an operator has to set up a makeshift transmitter for communicating in a desperate situation. Such desperate situations could include terrorist or rogue nation actions using biological, chemical, radiological, electromagnetic pulse (EMP), or even nuclear warfare. In addition, natural events such as intense earthquakes or large meteor impacts also apply.

I am formally requesting that NCI, other commentors, and the Commission itself examine megadisaster scenarios and develop detailed comments on these scenarios and the utility of Morse Code in such situations.

### **Technician Plus Privileges**

NCI proposes that Technician Class licensees be granted the privileges currently available to Technician Plus licensees. This is a reasonable suggestion that parallels a similar suggestion made by the American Radio Relay League (ARRL) a couple of years ago. The Commission should endorse and propose this suggested change in the amateur radio rules. It would allow Technician Class operators to gain some experience in high frequency (HF) operation and it would allow them to work with Morse Code using automatic systems as well as manual Morse Code. This would help those operators who would like to learn Morse Code but are having some difficulty doing so.

## **Procedural Comments**

I am opposed to NCI's suggestion that the Commission act immediately on Morse Code testing without a Notice of Proposed Rule Making (NPRM) proceeding. The situation with Morse Code is not an open and shut case. There are many questions about Morse Code testing and the public interest, including my questions in this document. It would not serve the public interest to rush ahead with a decision on Morse Code testing. Rushed decisions are usually very poor decisions.

I do agree with NCI's preference that Morse Code testing should be examined as an issue by itself, without considering other possible issues such as Morse Code sub-band allocations and operator license classes.

## **Morse Code in Amateur Radio Regulations**

Based on the available evidence, I think that there continues to be a useful role for Morse Code in amateur radio testing. The Commission should take the following steps to make sure that Morse Code continues to have a constructive role in amateur radio operation:

1. The current sub-bands reserved for Morse Code and digital data communications should remain as they are.
2. The 5 words per minute Morse Code requirement should be retained for the Extra Class license exam.
3. Technician Class amateur radio operators should be granted HF privileges equivalent to those held by Technician Plus operators.

4. Any person wishing to obtain amateur radio General Class privileges should be required to pass the General Class written exam.

#### **Additional Information on Morse Code**

Refer to Appendix A for additional information on the value of Morse Code. This section, **Reasons for a Continued Role for Morse Code**, is from my formal comments on the petition filed by Dale E. Reich (RM-10784).

#### **Recommended Actions**

The Commission should keep the 5 words per minute Morse Code requirement for the Extra Class license. Technician Class operators should be given Technician Plus privileges. In addition, the Morse Code and digital data sub-bands should be kept as they are now.

**Respectfully submitted,**

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## **Appendix A - Reasons for a Continued Role for Morse Code**

There are several reasons why the retention of some role for Morse Code in amateur radio serves the national interest and enhances the public service roles of amateur radio:

1. Morse Code equipment is more affordable for amateur radio operators in third-world nations than voice mode (single side band) amateur radio equipment is. Robust Morse Code operations by Americans encourage these operators to participate in world-wide amateur radio.
2. Morse Code with the standard Q signals can be understood by operators who speak different languages. This enhances international amateur radio communications.
3. American amateur radio operators of limited means can afford to build or purchase low-power Morse Code equipment for the fairly low price of \$100 to \$200 as compared to the much higher prices for single side band amateur radio equipment.
4. Morse Code is inherently narrow-band in nature allowing numerous amateur radio stations to share a given allocated band of frequencies.
5. Morse Code stations are quite simple, encouraging amateur operators to get involved in analyzing, designing, and building their own equipment as well as modifying existing equipment.
6. Morse Code is effective at low power levels allowing greater frequency reuse. I have operated on the high frequencies using one Watt of output power and Morse Code.

7. Morse Code is valuable during megadisasters or other extreme conditions when amateur operators must improvise their own transmitting equipment. Attorney Donald J. Schellhardt in comments in docket RM-10412 first introduced the concept of a megadisaster. Schellhardt defines a megadisaster as “A life-threatening disaster, either natural or man-made, of sufficient intensity and scale that it: (a) destroys and/or disables much, most, or all of the basic infrastructure and services over an area of *at least* 10,000 square miles, for a period of *at least* weeks or months; and (b) prevents or significantly restricts the flow of relief supplies and personnel, from areas which are not directly affected, for a period of *at least* two weeks.” (Comments of April 21, 2002). In a megadisaster, the operator can easily be isolated on his own and have to improvise radio communications. In such a situation it is much easier to create a keyed radio oscillator or even a keyed radio noise source than it is to create a single side band or FM transmitter. In addition, Morse Code can be used with a light, whistle, or car horn to provide local communications.