

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
Amendment of Part 97 of the Commission's Rules) WT Docket No. 05-235
To Implement WRC-03 Regulations Applicable to)
Requirements for Operator Licensing in the)
Amateur Radio Service)
)

**Blanket REPLY TO COMMENTS Of Those Seeking Retention Of
Test Element 1 For Any License Class Examination**

Submitted on 5 September 2005 by:

Leonard H. Anderson
10048 Lanark Street
Sun Valley, CA
91352-4236

General

This Reply to Comments is made towards all 894 of those who desire retention of the morse code test for any class amateur radio license.¹ It is a refutation of many of those commenters' claims, or *morse myths*, common to a large number of Comments.² It should be noted that the *morse myths* used by Commenters are approximately the same before and after the terrible disaster of hurricane Katrina on 28-29 August 2005 along the Gulf states.

This Reply to Comments makes no distinction between Comments made before the 31 August Federal Register Notice of the NPRM and those made afterwards. The Commission has not made any statement as to whether or not it will use prior-Notice Comments in considering a final Report and Order on the NPRM.

¹ Appendix 1 of this document has a tabulation of all Comments as of midnight EDT, 2 September 2005, beginning 15 July 2005 with the NPRM, 20 July 2005 with Comments filed by individuals.

² A *morse myth* is a challengeable euphemism or sophistry relating the efficacy of on-off keying morse code relative to all other modes of communications; such have been found in amateur radio literature for many years past.

Discussion

1. The *Doomsday Scenario Hypothesis*

“*When all else fails, morse code is necessary for emergency communications.*” That is specious in several ways. First of all, there is no sign that *all else has failed* insofar as any form of communications in the United States for many decades past.³ Second, there is no sign that on-off keying morse code mode communications is more efficacious than any other mode in such a *doomsday scenario*.⁴ Thirdly, the *morse myth* has been overplayed since the time of the Titanic sinking of 1912⁵ and unduly emphasized by fictional entertainment of much later years.⁶ The fact of the matter is that existing public safety radio services, typically police, fire, and medical organizations, do not use any on-off keying morse mode in radio nor do they have plans to do so.

2. The *Noise-Immune Weak-Signal Hypothesis*

“*CW [radiotelegraphy] gets through when nothing else will.*” That *morse myth* may have been born in pre-World-War-Two days in reference to early amateur radio when there was little choice in modes among amateurs other than manual radiotelegraphy and amplitude-modulated voice. In a comparison

³ That includes several large-region electrical power blackouts, particularly in the northeastern part of the United States. While the main part of the city of New Orleans, Louisiana, was rendered inhospitable and inoperative by the onslaught of hurricane Katrina on 28-29 August 2005, parts of the city remained functional enough to permit temporary city office headquarters to operate at a hotel and the *Superdome* sports arena to function as a shelter for about 20 thousand victims. Part of the telephone infrastructure continued to operate in and around New Orleans and the non-flooded areas of that city was used by several TV network news organizations as an in-site broadcast base after hurricane Katrina had moved away to the north. Flooding submerged some of the emergency electrical power generators for **all** users, including vehicles, rendering those inoperable.

⁴ Given that *doomsday* has not yet happened, it is impossible to predict conditions in the far future. While there are some operating advantages for on-off keying morse code mode, such scenarios assume that the other end of the radio circuit (unspecified locale) has enough advantages in equipment and electrical power to operate relatively normally.

⁵ The 1912 Titanic liner sinking tragedy emphasized the need for worldwide maritime emergency radio service resulting in the 500 KHz International Maritime Distress frequency, free of other radio users and with an on-off morse code mode use. That was replaced by the Global Marine Distress and Safety System (GMDSS) using Inmarsat communications satellite relay and automated message sending in the last year of the 1990s.

⁶ The 1996-released motion picture *Independence Day*, a science-fantasy fictional film, postulated an invasion of Earth by space-faring aliens. Earthmen, using supposedly unbreakable morse code, coordinated a world-wide counterattack and thus defeated the aliens. While entertaining, featuring good special film effects, it had a number of fictitious or implausible plot points. The late, noted screenwriter Ernest Lehman’s novel of 1977, *The French Atlantic Affair*, had a plausible plot of a passenger’s portable amateur radio set used to help defeat ocean liner hijackers; unfortunately, a following made-for-television motion picture was less than stellar, having had a number of changes in plot over the novel version, rendering it somewhat implausible.

of bandwidth effects, manual radiotelegraphy offers only a 3.5 db random noise improvement over single-sideband voice.⁷ With equal bandwidth receiver filters and equal-rate mode throughput, phase-shift or frequency-shift keying has about a 3 db power improvement over on-off carrier keying for noise immunity.⁸

A somewhat recent innovation in binary data communications is *PSK31*.⁹ That permits character sending and receiving at a 30 word per minute rate without taking any more RF bandwidth than a conventional on-off keyed carrier radiotelegraph signal sending-receiving at the same rate. A common argument against PSK31 is that “*it takes a complex personal computer to use it.*” That argument posits that a personal computer is necessary to use it without realizing that a personal computer is used for *convenience* rather than as a necessity. A personal computer already has the keyboard, internal mass memory, and screen display, plus most have a *sound card* that can aid in the receiving demodulation process.¹⁰ One HF band transceiver has already been designed and marketed as a kit by the DZ Company, called the *PSKube*, model PSK-100.¹¹ That transceiver can accommodate any binary data mode with appropriate programming.

3. The Power-Sensitivity of Human Hearing Hypothesis

“*Nothing can beat the ear and mind in pulling signals out of the noise.*” That is a corollary *morse myth* to (2). The presumption is that the human ear can detect signals far fainter than is possible with auxiliary circuitry, with or without additional digital-signal processing. However, the same discriminatory powers of the ear-mind combination can also work to hear faint voice transmissions in the presence of high levels of interference.¹² That *morse myth* hypothesis is largely subjective and

⁷ Based on a 500 Hz bandwidth receiver bandpass filter for manual radiotelegraphy and a 2.5 KHz bandwidth receiver bandpass filter for SSB voice. According to *Shannon's Law*, the random noise improvement is in indirect square-root proportionality of bandwidth or, in this case, the square-root of 5.0. In the power decibel formula of $10 \times \text{Log}_{10}(\text{bandwidth})$ that would be about 3.5 db.

⁸ That presumes an elementary phase-lock-loop (PLL) detection system to demodulate the mode data from either phase-shift or frequency-shift keying of binary data, that demodulation compared to conventional beat-frequency-oscillator (BFO) heterodyning commonly used with manual radiotelegraphy reception. A greater improvement in noise immunity is possible using error-correction coding of binary data to eliminate single bit errors or detecting double bit errors.

⁹ Originally conceived by Peter Martinez, licensed as G3PLX in the United Kingdom, nearly a decade ago, it uses phase-shift-keying of a carrier with a specially-selected variant of teleprinter coding to minimize sideband content of about 500 Hz yet retaining a throughput rate of about 30 words per minute, suitable for manual keyboard sending and screen-text receiving approximately equal to a skilled manual radiotelegrapher.

¹⁰ A personal computer *sound card* can also aid manual radiotelegraphy reception with the proper programming but few such articles are available in the popular amateur radio press.

¹¹ The DZ Company is located in Loveland, CO, and has a small product line called *DZKits*. The *PSKube* contained an LCD screen, keyboard, and *Windows*-compatible single-board computer in addition to analog circuitry for an HF transceiver. It was removed from the market due to low demand but the instruction-assembly manual is available for free download at their website.

¹² Sometimes called the *cocktail party effect* wherein it is possible to hold a conversation with another despite a room-full of other people all talking at once; i.e., at a typical social cocktail party.

has not been proven conclusively in any unbiased experiment.

4. Morse Code Is Necessary For National Defense or Homeland Security Hypothesis

“We must maintain a pool of skilled morse code operators to aid National Defense.” This is an egregious fabrication as a result of ignorance of some in regards to military or government communications. The armed forces of the United States have not used morse codes for communications in many years. There is only one central morse code cognition school in the United States and that is part of the Military Intelligence School at Fort Huachuca, AZ, used solely to train electronic intelligence analysts silently monitoring enemy transmissions. Modern United States military and government communications are in-clear or enciphered with robust cryptographic codes. All other United States radio services have either given up using morse code modes or never considered them for communications with the possible exception of limited-area maritime radio.¹³ International Morse Code is not a cryptographic code, merely an on-off coding pattern representing the written characters of the English language.

The closest relation between United States amateur radio activities and the United States military is with MARS, the Military Affiliate Radio System. MARS is an affiliate and not an absolute integral part of the communications networks of the United States military.¹⁴ MARS no longer requires its military or civilian volunteer members to be skilled in morse code mode operation nor do they operate MARS networks using manual morse code radiotelegraphy.

There is no need for any *pool* of skilled morse code operators for any national defense in the United States, nor for *Homeland Security*...except to provide a *pool* of other amateur radiotelegrapher operators for amateur radiotelegraphy communications.

5. Morse Code Is A Universal Language Hypothesis

There is no such thing as a *universal language* on Earth. Some communications methods and techniques have been *standardized* to a single or few forms for the convenience of most users. The

¹³ The Commission still maintains regulations for Radiotelegraphy (Commercial) radio operator licenses which require testing for morse code skills, but the maritime world itself primarily uses voice for harbor and inland waterway communications, SSB voice and Teleprinter Over Radio (TOR) data communications on open water areas.

¹⁴ The first military-amateur liaison organization was formed prior to World War 2 by the U.S. Army in an effort to both improve Army radio communications and to get more civilian involvement with the Army. After World War 2 the name was changed to the present-day acronym and the United States Air Force joined MARS. The United States Navy and Marine Corps joined MARS a few years later. During the Vietnam conflict, MARS stations in southeast Asia helped boost morale by providing voice contact with service members' family and friends through the use of *phone patches* by amateur radio volunteers in the continental United States. That has been documented by the U.S. Army Center for Military History website in regards to Signal operations during the Vietnam War. However, the Vietnam War ended 30 years ago and the mission of MARS has changed to that of providing a liaison between government radio users and less towards civilian amateur radio volunteer involvement. U.S. Army MARS headquarters are also located at Fort Huachuca, AZ.

International Morse Code set defined for United States amateur radio by the Commission was *standardized* for international telegram exchanges, not expressly for amateur radio use. That such a standard was the *English language* version seems to have been influenced by international telegram users rather than its particular language set.¹⁵ Those whose primary language is English have an advantage in learning that morse code set since it represents letters, numbers, and most punctuation in English. Those whose primary language is syllabic rather than alphabetic will have greater difficulty, requiring, essentially, learning of a different secondary written language.

Nowhere in Part 97, Title 47 C.F.R. is there a requirement that United States radio amateurs must communicate internationally. Such is an **option** to all United States radio amateurs, any class license.

6. Passing A Code Test Shows Dedication And Commitment to Amateur Radio Hypothesis

“Passing a code test shows dedication and commitment to the amateur radio community.” That is another egregious fabrication, a false moral value statement made by those who favor morse code use. It is aligned with another false moral value statement of *“one learns to appreciate something that one works hard for.”* That second statement is usually followed by general moral-ethical denunciations of younger generations allegedly *wanting something for nothing.*¹⁶

The Commission uses license examinations as part of its tool set in regulating, mitigating interference, and enforcement of all United States civil radio services. All license examinations are for the Commission’s purpose and do not reflect on any particular organization or grouping of radio users of any particular radio service. Since the Commission is not chartered as an academic, guild, trade, or union organization, license examinations are not skill tests per se.

By the polarization of opinions in regard to WT Docket 05-235 on NPRM 05-143, it should be clear that there is **no** single *amateur radio community* but rather several of them. Two quite opposite opinions exist on the need for any morse code test for an amateur radio license.

7. Morse Code Skill Can Only Survive Through Federal Testing Hypothesis

“Morse code skill will die out if testing ceases” that sometimes including *“morse code use will die out”* as well. That is an egregious supposition which seems close to irrational paranoia. Morse code

¹⁵ The International Morse Code set was standardized by the CCITT, the Consultative Committee on International Telegraphy and Telephony, prior to the organization of the International Telecommunications Union, or ITU, a UN body. Early history of this at the ITU is available only partly to non-member document purchasers. Many CCITT documents and standards have become ITU documents and standards but not necessarily under the same document identification numbers.

¹⁶ Complaining about *younger generations* seems to be very common to many reaching ages of 40s or 50s. Those who say that apparently forget that they were once part of a similar younger generation or perhaps they are still rankled by having older generations say that about them at one time. A dichotomy in opinion exists in Comments: Some say that learning morse code was *very easy* for them; in which case they don’t have grounds for pretending that they worked hard at all prior to passing a manual telegraphy test element.

skill can be learned, improved in many ways **not** involving radio communications. The Military Intelligence School at Fort Huachuca uses commercial personal computer programs for students seeking one of four Intercept Analyst military occupation specialties.¹⁷ Paper and magnetic *code tapes* have been used for decades by students learning and improving morse code skills in classrooms, those classrooms devoid of radios; any tests run there were for the morse code instructor's use in gaging students' performance in learning or improving. Morse code skills can be learned or improved one-on-one, instructor to student, or solo, the student disciplined enough to follow his or her own progress. Any federally-required test for morse code skill is just for the Commission's use in ascertaining, along with written test elements, whether a license applicant has the requisite knowledge and ability to be granted a license. It should be noted also that the Commission has gone on public record as saying, as far back as 1990, that the morse code test does **not** serve any useful purpose in the Commission's determination for granting an amateur radio license.¹⁸

Whether or not morse code mode continues to be used in actual practice on United States amateur radio bands depends on individual radio amateur's preferences in the future. Personal preferences cannot be dictated by governmental fiat, required test or not...nor should it be in a free society.

8. Morse Code Is The Heart And Soul Of Amateur Radio Hypothesis

“Morse code is the heart and soul of amateur radio and the morse code test should never be taken away.” That isn't egregious, it is simply emotional and devoid of logic and reasoning. In 1912 the first United States government agency to regulate radio recognized that amateur radio existed and also that on-off keying codes were the only practical way for amateur radio to communicate. However, 1912 was 93 years ago and not only have the amateur radio regulations changed considerably since then but the Commission is now 71 years in existence and has allocated many and varied modes plus frequencies and bands for amateur use. ***No other allocated mode has ever been required for a separate pass-fail test element.*** Not by the Commission nor its preceding federal radio regulating agencies.

The major reason for retention of the morse code test in the Commission's regulations was ITU-R regulation S25, specifically S25.5 which mandated that all administrations shall test amateur radio license applicants in morse code proficiency for any license having below-30-MHz operating privileges. S25 was rewritten and revised during the 2003 World Radio Conference (WRC-03) in Geneva, Switzerland. Since then, 23 national administrations have removed any separate pass-fail morse code test elements from their license testing regulations. The International Amateur Radio Union (IARU) had taken that position to revise S25.5 prior to WRC-03 as has been visible to all on their website. The American Radio Relay League (ARRL) had opposed revising S25.5 until WRC-03 had gotten underway in June of 2003. The ARRL is the major membership organization of radio amateurs in the United States but they only represent one out of five licensed United States radio

¹⁷ From the Fort Huachuca website M.I. School syllabus seen three years ago on the Internet.

¹⁸ FCC 90-53 about the creation of the no-code-test Technician class amateur radio license.

amateurs in membership.¹⁹ The Commission was bound by United States agreement to ITU recommendations.

The mystique of morse code seems rooted in the continuing output of amateur radio periodicals of the efficacy of morse code, plus the so-called *incentive plan licensing system* lobbied for by the ARRL and requiring a 20 word per minute manual radiotelegraphy test element for the Amateur Extra class license.²⁰ A continuing bombardment in amateur radio literature for years on the supposed efficacy of radiotelegraphy is bound to condition the thinking of many amateur radio hobbyists.²¹ The maximum manual radiotelegraphy rate for all morse code test elements was set at 5 words per minute by the Commission in Report and Order 99-412, the *Amateur Restructuring* which took effect in mid-2000. Conditioned thinking cannot be readily overcome by logical, pervasive argument against it.

Almost a corollary to the *heart and soul hypothesis* is that radiotelegraphy “*was there in the beginning, remained, and has become traditional to amateur radio.*” While partly true, beginning radio, all of it, was technically primitive in 1896 with no active amplification devices yet invented.²² The only practical method of communicating was by on-off keying of transmitters using the already proven coding method of wired telegraphy, then in its 52nd year of use.²³ That radiotelegraphy remained is more a matter of economic practicality in an avocational radio activity not performed for monetary profit: Early vacuum tubes were expensive and the Great Depression of the period 1928 into the late 1930s reduced personal income for hobbies; World War 2 meant a cessation of amateur radio transmitting activity for everyone. Few could afford to do much experimentation or expansion of their amateur radio equipment. So, in a period of 1896 to 1945 of 49 years, a *tradition* took root in United States amateur radio emphasizing radiotelegraphy as *simple* (true) to implement and *robust* (true only in comparison to limited modes available to amateurs). That tradition began to be

¹⁹ ARRL membership magazine *QST's Publisher's Sworn Statement* of mid-2005 indicates their membership as about 145 thousand. Number of individual licensed U.S. radio amateurs from www.hamdata.com for mid-2005 indicates approximately 722 thousand; League membership is thus about 20% or only one out of five licensees.

²⁰ The ARRL is the foremost publisher of textual material for amateur radio, including periodicals QST and QEX, which feature radiotelegraphy mode over others plus sponsoring several so-called *radiosport* contests which do the same. Since the earlier Petitions and NPRMs and Reports and Orders are not available on-line, it cannot be ascertained whether the League actually petitioned for the increased radiotelegraphy test rate or not. According to their own later literature they do take credit for that. The ARRL does not publish demographic data on its membership but it would appear that their long-time members also favor radiotelegraphy over and above all other modes as if that were a moral-ethical attribute of radio amateurs.

²¹ Conditioned thinking, perhaps better known by the colloquial *brainwashing*, towards radiotelegraphy mode use did not invade the remainder of United States radio services' thinking in the last half century. Those radio services and the military radio communications users either abandoned manual radiotelegraphy use or never specified it for use when those services were created.

²² Radio as a communications medium was first demonstrated by Marconi in Italy and Popov in Russia, separately in location but in the same year. De Forrest did not invent the triode vacuum tube, the first active amplification device for electronics, until 1906; reliability required improvements until about after 1918.

²³ The Morse-Vail Telegraph System debuted in 1844, between Baltimore, MD, and Washington, DC.

overturned and replaced at the end of World War 2 and the multiple plateau advances in the state of the radio art brought on by wartime needs. However, a 49-year period is over two generations of radio amateurs and a strong tradition of radiotelegraphy as the *best mode of all* was firmly embedded and ready to pass on to third and fourth generations.

9. Morse Code is Fun, Easy to Learn and Use, Just Try It Hypothesis

“*Morse code is fun, just try it, you’ll like it*” is a common saying by radio telegraphists about their favorite radio mode.²⁴ However, the mode, whether by radio or wired, requires an aptitude for relating monotonic sound patterns into their representative English language written characters and thus the interpretation into meanings. That aptitude is not present in all humans.²⁵ The degree of *ease of use* and also *easy to learn* is highly dependent on that aptitude. By contrast, human spoken languages evolved and flourished because all humans have the ability to communicate audibly with relative ease.²⁶ No specific aptitude was necessary. There is a strong human trend of those who have a telegraphy aptitude to *lord it over* those who don’t have that aptitude; a telegraphic aptitude has no direct relation to intellectual skills or reasoning ability...nor of some self-defined moral-ethical virtue that some telegraphists ascribe to themselves.

While those with a radiotelegraphic certainly seem to enjoy their mode and can become skilled at its use in operating a radiotelegraphy station, that is no reason for all license applicants to undergo a manual radiotelegraphy cognition test. Use of the radiotelegraph mode should be left as an **option** for all licensees, the same **option** granted to all other allocated modes. Morse code cognition skill carries absolutely **no** attribute for becoming skilled in radio physical theory, operating radio equipment not specifically for telegraphy nor of being able to interpret and obey regulations put forth by the Commission.

²⁴ The expression “*try it, you’ll like it*” was adapted from radio and television advertising phrasing of some years past.

²⁵ The United States military used a battery of aptitude tests given to recruits between later years of World War 2 to sometime in the 1960s. One of those was simple morse code character cognition. This writer took such a battery of tests in early 1952 on entering military service with the United States Army. Aptitude tests were a means of screening out those who would not be able to learn certain military occupation specialties. This writer was assigned to the Signal School for training in the new microwave radio relay occupation specialty on the basis of those aptitude tests.

²⁶ Spoken languages all contain a wide variation of meaning just in tone, timbre, or word combinations. Asian spoken languages are said to contain the most variations of tone versus meaning. By contrast, the monotonic patterns of on-off keying codes are devoid of such shadings of meaning and requires great attention to formality of procedure, use of common word abbreviations, and, for amateur radio use, *Q Codes* representing whole word groups. Emotional shading of words is almost impossible in telegraphy compared to audible spoken languages, leading to the false assumption that radiotelegraphy is *civil and polite all the time*.

10. Morse Code Testing Must Be Maintained for Amateur Extra Class Hypothesis

307 Commenters out of 894 total have stated that *the morse code test must be retained to present some incentive for other amateurs to upgrade*. It should be noted that most of those 307 Comments are from those who already possess an Amateur Extra class license; there is no indication that the Commission would ever require them to re-test for that Amateur Extra license as long as they renew within the lawful period of renewal.

The former *incentive plan licensing system* created a de facto **class hierarchy** in United States amateur radio which worked against the original good will and fun in a shared avocation. By the time of regulation *Restructuring* of Report and Order 99-412, the rather Byzantine license class structure had grown to six. Many of the licensees who had so-called lower class licenses were kept from the status, rank, and privileges of Amateur Extra by the 20 word per minute test rate for that class. That showed a clear and undue favoritism to radiotelegraphy skill in a hobby activity involving radio transmission. Amateur radio is an avocation, not an occupation, should not be gaged by standards required for a professional guild, craft, or union.

It has already been pointed out that morse code skill can be learned and improved without having any federal test requirement for that singular manual mode skill. If it is good to use, enjoyable to use, then all should be able to use radiotelegraphy mode as allocated on channels and bands existing now. Since there have never been any manual operating tests for all other allocated modes in United States amateur radio licensing, it makes no logical sense to maintain the morse code test just for one class of amateur license. Radio amateurs have, at their own option, learned and became proficient at all other modes they chose; no manual operation test was necessary for them to do so. Given that the Commission has not, in many years, required any minimum operation in radiotelegraphy by any licensee, there is little point in maintaining a singular manual operating test for it, any license class.

If the majority of the 307 Commenters requesting retention of the morse code test for Amateur Extra have **already achieved that class**, then there is the spectre of their wanting to keep their former status achieved through passing a radiotelegraph test.²⁷ That can be considered selfish on their part in that they disregard all others in the future who may enter amateur radio after a decision on NPRM 05-143 has been reached.

The Commission now awards all amateur radio licensees the **option** of using any allocated mode in any channel, frequency, or band of frequencies allocated to their class of license. This includes radiotelegraphy by no-code-test Technician classes who are permitted to operate only on bands above 30 MHz. **Option is not a failure.**

²⁷ The *majority* is based on both my subjective observation their text and objective observation of Commenters' own statements that they were so licensed already as Amateur Extra. Given that the Commission has ready access to the entire database of licensees, the Commission can readily ascertain or disprove that.

SUMMARY

Ten common hypotheses have been shown, those colloquially termed *morse myths* for their favoritism towards radiotelegraphy. Such *morse myths* have been contained in most of the 894 Comments appearing in WT Docket 05-235 requesting a continuation of the morse code test. All have been shown to be logically false in regards to any necessity of maintaining a morse code proficiency test for an amateur radio license. Morse code mode can be considered just another mode in the allocated repertoire of United States amateur radio modes and does not deserve special treatment in this new millennium. It is my considered opinion that the morse code test of test element 1 should be eliminated as indicated in the Commission's NPRM 05-143...for the future of United States amateur radio rather than to favor certain present-day amateur radio hobbyist-licensees.

A Thank You

I wish to thank the Commission for permitting a private citizen of the United States, one who holds no amateur radio license, to comment on regulations governing getting into United States amateur radio.

Leonard H. Anderson

Retired (from regular hours) Electronics Design Engineer
Life Member, Institute of Electrical and Electronic Engineers
Veteran, United States Army 1952 to 1960 (Signal Corps), Honorable Discharge 1960
General Radiotelephone (Commercial) Radio Operator license from a First Class Radiotelephone
Radio Operator License first obtained in March, 1956, and kept renewed.
Former contributor to and then Associate Editor of *Ham Radio* magazine prior to 1990.

**Appendix 1 - Tally of Opinions of All Commenters in WT Docket 05-235
From 15 July 2005 Through Midnight EDT 2 September 2005**

| Date | TOTAL | Indeterminate | Against | FOR | Extra Only |
|----------------------|-------|---------------|---------|--------|------------|
| To end July | 196 | 4 | 39 | 137 | 16 |
| 1 August | 116 | - | 31 | 78 | 7 |
| 2 August | 143 | 6 | 36 | 83 | 18 |
| 3 August | 129 | 2 | 31 | 73 | 23 |
| 4 August | 89 | 2 | 27 | 52 | 8 |
| 5 August | 84 | 3 | 30 | 40 | 11 |
| 8 August | 459 | 34 | 136 | 221 | 68 |
| 9 August | 101 | 3 | 34 | 45 | 19 |
| 10 August | 51 | 3 | 14 | 29 | 5 |
| 11 August | 49 | 1 | 9 | 32 | 7 |
| 12 August | 39 | 5 | 5 | 20 | 9 |
| 15 August | 156 | 8 | 42 | 79 | 27 |
| 16 August | 34 | 1 | 9 | 19 | 5 |
| 17 August | 33 | 3 | 5 | 18 | 6 |
| 18 August | 44 | 5 | 5 | 26 | 6 |
| 19 August | 27 | 1 | 9 | 15 | 2 |
| 22 August | 116 | 11 | 33 | 52 | 20 |
| 23 August | 20 | 2 | 10 | 6 | 2 |
| 24 August | 18 | - | 9 | 7 | 2 |
| 25 August | 9 | - | 4 | 4 | 1 |
| 26 August | 10 | - | 4 | 3 | 3 |
| 29 August | 39 | 2 | 16 | 12 | 9 |
| 30 August | 6 | 1 | 2 | 2 | 1 |
| 31 August ** | 55 | 4 | 19 | 28 | 4 |
| 1 September | 82 | 3 | 26 | 33 | 20 |
| 2 September | 18 | 5 | - | 5 | 8 |
| sub-total | 2123 | 109 | 587 | 1130 | 307 |
| percentage [of 2014] | | - | 29.15% | 55.41% | 15.24% |

* NPRM FCC 05-143 in the ECFS on 15 Jul 05, counted as "For."

** Notice of NPRM 05-143 made in Federal Register for 31 August 2005.

Notes:

TOTAL column is total for day indicated to midnight EDT of that day.

Indeterminate column has duplicates by same individual, joke entries, or comments not considered directly related to NPRM 05-143.

Against column are those who are unambiguously against removing any form of code testing.

FOR column are those who are unambiguously for the NPRM and removal of code testing, all license classes.

Extra-Only column has those who wish to retain code test for Amateur Extra but allow deletion of code test for "lower" classes.

Percentages are calculated based on Totals minus Indeterminate filings.