Before the
Federal Communications Commission
Washington, D.C. 20054

In the Matter of	**)**	
	)	
The Amateur Radio Service:	**)**	
Proposed Changes to the Morse Code	**)**	**RM-10782**
Proficiency Requirement for Operator	**)**	**RM-10811**
Access to the Amateur Radio Bands	**)**	
Below 30 MHz	**)**	
	)	

To: The Commission

Reply Comments in Opposition to Comments of Peter Baskind Made on 8 September 2003 and 7 November 2003 On The Above Petitions

I, Leonard H. Anderson, respectfully wish to make some general Comments to Mr. Baskind's comment statements. I make these as a private citizen, as a professional electronics design engineer retired from regular hours, as a U. S. Army Signal Corps veteran who began in HF radio communication in 1953, and as a long-time radio and electronic hobbyist who has never had any amateur radio license or ever tested for same, nor has any affiliation with amateur radio organizations or businesses or publishers.

The following reply comments address the contents of Baskind's statements given in bold italics. It should be noted that Baskind's first Comment was made on RM-10782 on 8 September, then refiled with identical wording on 7 November in regards to RM-10811.

Page 2, II Discussion, A: "However, the conclusion and recommendations of the Petitioners are without foundation, and overly radical."

It can also be said that the desire to maintain a Morse Code test by some long-time radio amateurs is overly conservative and without thought to the future.

Those United States radio amateurs who have already obtained an Amateur Extra class amateur license have already been tested and passed at 20 words per minute equivalent Morse Code cognition...and they will never again be expected to retest again. Baskind must consider that the Commission makes regulations which apply to those not yet licensed in the amateur radio service. Part 97 of Title 47 C.F.R. does not apply **solely** to those already licensed.

While it is true that the Morse Code test has never disappeared from United States amateur radio license testing regulations, the "radicalness" of removing the code test has

already occurred with the Technician class license creation a dozen years ago.[1] Demands that Morse Code testing must be continued can only be construed as the ultimate in extreme conservative thinking.[2]

Page 2, II Discussion, Petitioner's Evidence and Argument (second paragraph): "While Petitioners [of RM-10782] provide the Commission with no evidence of their technical knowledge or expertise, they make numerous statements regarding use of Morse Code on H.F., as well as other modes, that simply do not seem to be supported by fact, and often are incorrect."

Baskind seems to think that amateur radio physics are unique in radio as well as remaining conservative into thinking that the 3 to 30 MHz High Frequency (HF) spectrum is the only region for radio communications.[3] In truth, the rest of the radio world is well aware of the propagation characteristics and physics concerning HF radio communications, quite possibly since before most commenter's life experience began.[4] All of the HF radio communications characteristics and phenomena have been given in textbooks for quite some time.[5]

The technology and applied practice of HF radio communications is known personally to this commenter since 1953 and a first military assignment at U. S. Army radio station ADA.[6] The Army Command Administrative Network (ACAN) was planned around teletypewriter message communications since 1948. On-off keyed CW modes were a secondary for use in

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[1] A Morse Code test for amateur radio licensing has always been law since the first United States radio regulating agency created in 1912. The Commission was created by the Communications Act of 1934. Approximately 200 thousand no-code-test Technician class amateur radio licenses have been granted by the Commission since that class began existence in 1991.

[2] Since the revision of Article 25 of the International Telecommunications Union (ITU) Radio Regulations in July 2003 at the World Radio Conference in Geneva, Switzerland, a dozen other administrations have either eliminated the code test from their amateur radio regulations or are about to eliminate them (Australia and Sweden). That the Morse Code test has "always been there" in United States amateur radio regulations is not an imperative that the code test must always be there in the future. That other nations administrations have eliminated the code test is neither radical nor anything else except following the progress of radio communications technology and the wishes of its citizenry.

[3] The ITU-R frequency allocations cover 9 KHz through 300 GHz. There are no United States amateur radio band allocations below 1.6 MHz. The overwhelming majority of United States amateur radio spectrum space is above 30 MHz.

[4] Since the early 1920s.

[5] One example is *Communication Engineering*, by William Littell Everitt, EE, PhD, McGraw-Hill Book Company, 1932. That is this commenter's birth year. A more recent example is *Radio Meteorology*, by B. R. Bean and E. J. Dutton of the Central Radio Propagation Laboratory, National Bureau of Standards (nor National Institute of Science and Technology), Boulder, Colorado, U. S. Government Printing Office, 1966.

[6] ADA has 43 transmitters as of the start of 1956, was the primary communications like of the Far East Command in Tokyo, Japan, to San Francisco, Seattle, Anchorage, Hawaii, Manila, Okinawa, Pusan and Seoul, Korea, and Saigon (then French Indochina). None of ADA's communications circuits used on-off keyed CW. Average thoughput per month in 1955 was 220 thousand messages a month on 24 hour, 7 day a week service.

field radio, including Korea during the active phase of that war 1950 to 1953. As of a half century since, United States military radio does not use any on-off keyed CW modes for any tactical communications purposes; HF radio has become a secondary radio medium as a backup to existing VHF through UHF into microwave bands, line of sight or tropospheric scattering or through satellite relay paths.

Page 3, second paragraph, last sentence: "While this Commenter often uses digital modes and enjoys them immensely, it remains unclear, to say the least, that modes such as PSK31 are more efficient that [sic] the more electronically simple Continuous Wave mode."

Baskind refers to on-off keyed Continuous Wave [radio frequency carrier], the keying done with International Morse Code. He stresses "simplicity" as if that were an attribute. However, "simplicity" is not necessarily the best and is against advancement of the state of the amateur radio art, one of the definitions in 47 C.F.R. § 97.1. Communications, per se, is not necessarily best because it is "simple." Communicators require a number of different factors to evaluate what is best. Since all other communications carriers in the radio world have abandoned on-off keyed CW, that should be a sign that the mode is not "best" or even most favored.

PSK31 was innovated by Peter Martinez, G3PLX, as a narrowband data mode that permitted on-line teleprinting equivalent to about 30 words per minute using the same narrow bandwidth normally used with on-off keyed CW modes. PSK31 has the capability to include forward-error correction to eliminate some simple errors in transmission...which can occur even to the most expert of on-off keying Morse Code human operators.[7]

Perhaps some of the antipathy to mentions of PSK31 is the fact that it was innovated in the United Kingdom and tried out for nearly three years in Europe among radio amateurs there before it was tried in the United States by amateur licensees here.

If "simplicity" is the prime motivator to the best in communications, then Baskind could examine the first method of communications in the United States Army Signal Corps: Semaphore with flag pairs by day, the same with torch pairs by night.[8] No electric power of any kind required. Wavelength is considerably shorter than the highest radio frequency allocated by any administration.

Page 4, first paragraph, last two sentences: "Further, as Petitioners would surely agree, in those very limited times when a true national or local emergency arises that might require use of H. F. bands, rules of necessity would allow No-code Technicians, and

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[7] Those favoring Morse Code modes imply that all such "morsemen" are perfect in cognition and sending in that they never mention errors. Among the many reasons for commercial communications carriers eliminating manual Morse Code mode for teletypewriting modes is the human errors possible by requiring two Morse specialists at each end of a communications circuit. There are legal cases brought up in United States civil courts, principally in the 1800s where such errors in communications were costly to carriers or their customers.

[8] The collar insignia of the Signal Corps is a torch over crossed signal flags today. The Signal Corps long ago abandoned semaphore signalling but the uniform collar insignia remains in tribute.

indeed, the unlicensed, to operate on any frequency if it were to protect life or property. Therefore that portion of Petitioners' argument falls under its own weight."

On the contrary, the pro-code comments fall and fail by that same emergency situation. A true emergency condition does not require any Morse Code proficiency, therefore there is absolutely no need for any such "emergency preparedness" represented by such demonstrated proficiency by test. None of the public safety radio services in the United States require any demonstrated Morse Code proficiency to perform public safety duties. The Auxiliary Communications Service (ACS) of the state of California does not require Morse Code proficiency nor has it since 1993. The world maritime community abandoned Morse Code when it adopted the Global Marine Distress and Safety Service (GMDSS) signaling of maritime emergencies.

Page 4, second paragraph, last two sentences: "Further, it should be noted, that on H. F. bands, the harm caused by one deficient operator can impact a far greater area than a more localized operator on V.H.F. or U.H.F. So, again, this argument fails."

Again on the contrary, Baskind isn't quite correct. The "far greater area [via HF radio]" is true if and only if HF radio propagation conditions allow long-distance communications. Anyone remotely familiar with HF radio will know that HF radio conditions are not constant. Even favoring long-distance communications, the HF radio paths or not always omnidirectional.

With line-of-sight radio paths, such as on VHF and UHF, the coverage can be considerable. In the case of the Greater Los Angeles area with a population of approximately 10 million, almost any geographic location above ground will allow radio paths reaching at least 2 million population.[9]

Near Vertical Incidence Skywave (NVIS) propagation out to about a 300 mile distance works well with 2 through 150 MHz frequencies on a "single-hop" and is doctrine with the United States military land forces.[10] This takes in HF through VHF alike.

Page 5, B. Petitioners' Recommendations, first paragraph: "Petitioners recommend eliminating Element 1, the Morse Code test, immediately. This is far too radical a step for the Commission to take at this time. This Commenter is concerned that such a wholesale change of the regime that has governed this Hobby since its inception could have irreparable implications for the valuable H. F. bands."

Baskind should clarify what exactly is a good "time to change?" And why is it so

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[9] The "Greater Los Angeles Area" has never been fully defined in the legal sense. In going by Federal Aviation Agency Local Sectional charts, this would be about 60 by 120 nautical miles. The estimation of minimum coverage is informal, based on previous VHF through microwave communications by this commernter.

[10] Pronounced "nevis," NVIS is done primarily over land in the military 30 to 88 MHz band. This can be seen on the many photographs of military land vehicles having whip antennas tethered to low, tilted angles rather than being vertical.

"radical?" Will Baskind's Amateur Extra class license be harmed if all future United States radio amateurs no longer have to take any code test?

Since a dozen nations around the world have already dropped their administrations' code tests or are about to, the point about "Irreparable implications" is null, not even moot. Retention of the Morse Code test in the United States may have "irreparable" circumstances on permits of foreign amateurs' operation within United States jurisdiction, specifically amateurs of those countries which have dropped the code test. There is no harmonization if the United States wishes to be apart from other nations.

Eliminating the Morse Code test should have little or no effect to the sub-bands of U.S. amateur allocations that permit both data and on-off keyed CW modes. Those that use such sub-bands will not lose their license grants nor will those sub-bands suddenly disappear; such would be an entirely separate issue from the code test itself.

Eliminating the Morse Code test may very well cause "irreparable" harm to the psyche of individuals who maintain that Morse Code is the ultimate achievement of amateur radio. That would be unfortunate, of course, and also unpredictable. However, retention of the code test will only continue to keep other hobbyists from seeking an amateur radio license grant in the future. Retention of the code test will secure a place for those already licensed with privileges on HF, giving them psychological security...at the expense of uncounted numbers of future hobbyists.

A Conclusion

Baskind has presented neither an accurate nor unbiased commentary on either petition. He is, by his own admission, one who prefers Morse Code mode.[11] There are no valid technical or legal reasons to retain Morse Code testing in United States amateur radio licensing examinations. There remains only the opinions of those who consider U.S. amateur radio as the ultimate in radio communications skills and refuse to consider others' wishes for the future.

The Commission yields many options to U.S. amateur radio licensees. There is no requirement that all operating on HF use on-off keying CW over and above all other allocated modes. All allocated modes are optional to use. That option remains. There is no option in testing for an amateur license having below-30-MHz privileges. All must demonstrate it to operate in that radio region. No option there. That should change. Option is not a failure.

Respectfully submitted electronically this 20th day of November, 2003.

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[11] On amateur radio on-line Internet database http://www.qrz.com.