

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

In the Matter of)
)
Amendment of Part 97 of the Commission’s) **WT Docket 05-235**
Rules To Implement WRC-03 Regulations)
Applicable to Requirements for Operator Licenses) **Report and Order 06-178**
in the Amateur Radio Service)

Reply in OPPOSITION to the Petition For Partial Reconsideration by Anthony R. Gordon

Mr. Gordon makes a number of eloquent pleas for the retention of the International Morse Code test, formerly test element 1 in previous Commission regulations for license testing in the Amateur Radio Service. Unfortunately, his grandiloquent rhetoric is both ambiguous and in error as it pertains to practical licensing requirements for the Commission’s lawful task of regulating all United States *civil* radio emissions. I, Leonard H. Anderson, a private citizen and Amateur Extra Class licensee in the Amateur Radio Service, will point that out using Mr. Gordon’s own *Petition statements* quoted in italics following:

I. Alleged Failure of Commission to *Safeguard the Nation* by Elimination of the Code Test

Mr. Gordon writes on his Petition, page 2, end of top paragraph:

“My purpose in filing this petition for reconsideration is to point out to the Commission that the failure to keep the Morse Code telegraphy requirement intact, at least as a required examination element for the Amateur Extra Class license, fails to take into consideration the significant national security implications that require retaining adequate examination safeguards to insure the future viability that Morse code telegraphy provides, not only to the Amateur Radio Service, but the nation as well.”

Firstly, the Commission has not been chartered to be a *security* organization by either the Communications Act of 1934 nor the Telecommunications Act 1996, both laws passed by the Congress of the United States. Secondly, it regulates *civil* radio emissions and interstate wired communications; the United States government’s use of radio is regulated by the National Telecommunications and Information Agency and the Department of Defense. The Commission works in cooperation with both the NTIA and DoD regarding radio use mitigation but does not, itself, have a law enforcement arm nor specific “radio police.”¹

¹ Federal Marshals and Federal Courts must handle the specific law enforcement actions and trials.

Third, the Amateur Radio Service is not in any way any arm of the Department of Defense nor of the relatively new creation, the Department of Homeland Security. The Commission's definitions in the beginning of Part 97, Title 47 C.F.R., describe the Amateur Radio Service for regulatory purposes. De facto, practical definitions of the Amateur Radio Services of the United States of America and other nations signatory to the International Telecommunications Union are that Amateur Radio is a *hobby*, a multi-faceted technological hobby done for personal enjoyment without pecuniary compensation. While the services of individual radio amateurs can be beneficial during disasters and local to national emergencies, the Amateur Radio Service is not primarily engaged in disaster or emergency communications. There already exist tens of thousands of trained, equipped, competent Public Safety individuals working in organizations designed for those purposes.

Fifth, we must all consider the despicable act of terror on 11 September 2001 and how it was carried out by some religious extremists. Four passenger air carriers taken over by terrorists with three of those used in suicidal, deliberate destructive and fatal crashes into the World Trade Center in New York City and the Pentagon in Washington, D.C. The fourth airliner was prevented from reaching its target by passengers yet all aboard were killed. The question remains just **how could such a thing have been stopped by any form of communications?** The answer is it could **not then be stopped.**

On 11 September 2001 the Federal Aviation Agency was in charge of regulating air traffic in the United States. It does this through the facilities and personnel of Air Traffic Controllers primarily using voice communications with pilots, aided by FAA radars and automatic transponders to provide an identification of individual radar returns. Aircraft operate essentially on an "honor" system, obeying Air Traffic Controller directions. Failure to follow such directions may result in loss of a pilot license, fines, and or imprisonment in violation of Federal Air Regulations. The suicidal terrorists of 11 September 2001 **did not obey controller directions.** The FAA was, by itself, **unable to stop them.** The United States government had to take draconian measures immediately afterwards: Temporarily shut down all air carrier operations and have United States Air Force and Air Guard interceptors on both patrol and alert to deliberately destroy any aircraft that did not obey government orders. That was the only practical measure against this unheard-of, unholy act of suicidal tactics used by previously-unidentified terrorists.

Could morse code mode skills have "prevented such a disaster?" Absolutely not. Communications and radionavigation equipment of all four air carriers were functioning and in operation, FAA radars were functioning. The terrorists simply refused to obey air traffic control directions; they were on a suicide mission and didn't care. The major communications mode of passengers on the fourth aircraft, thwarted by passengers themselves, was by individual cellular telephone voice messages to those on the ground.

II. National Security “Unity of Effort” Requires “Core Competency” via Morse Code Examinations?

Mr. Gordon writes, first paragraph of his *Petition* on page 3:

“For the Amateur Radio Service, one of its main “core competencies” has been the pool of talented Morse code telegraphy operators at the Amateur Extra Class operator level, a ‘core competency’ of the Amateur Radio Service that will no doubt be affected by the failure of the Commission to require testing in this critical skill for the required ‘Unity of effort’ in emergency decision making and war fighting, especially in the current War Against Terrorism.”

I must relegate that to the Pure Jingoism category. Disregarding Mr. Gordon’s mention of a military Joint Chiefs of Staff document intended for its **military**, not United States radio amateurs, his trying to re-define the term *warfighters* as applying to radio amateurs is ludicrous. *Warfighter* is a relatively new word that applies to the military actively engaged in fighting at war. It was not used during the Korean War when this writer voluntarily served the United States Army, nor was it used during the United States involvement in the Vietnam War. Radio amateurs are hobbyists, not *warfighters*.

Having been both a soldier in voluntary Army service and a civilian electronics design engineer until retirement, Mr. Gordon’s information on military communications modes is inadequate. There is no indication that the United States military uses any Morse Code modes for communications now or in the past two decades. This can be seen from inspection of several sources, beginning with Field Manual FM 24-24.² FM 24-24 is a virtual catalog of signal equipment of all kinds for land force use, everything from field telephones to satellite terminals and in-between, as it existed in Army signal inventory as of 1994. There is no manual Morse Code key in FM 24-24 except for the description of the then-almost-obsolete AN/GRC-109 transmitter and receiver set having a *built-in key*.³ Coder Burst Keyer AN/GRA-71 is also included, allowing a prepared tape to send an on-off keyed CW message at approximately

² <https://atiam.train.army.mil/soldierPortal/atia/adlsc/view/altfmt/9415-1> to reach a Table of Contents of PDF files. Note: This URL will be rejected if the user does not possess a DoD access certificate. This FM may be downloaded entire in PDF at an approximate file size of 10.5 MB. Since FM 24-24 has been approved for unlimited distribution, a number of private companies offer it and several other military manuals for sale on CDs at a nominal cost. At one time the Army Training and Doctrine Command allowed greater public access to unclassified documents; a redesign of their website resulted in more strict controls on who may access files, even public files.

³ That key is not pictured in the accompanying line drawing. At the time of issuance of FM 24-24 the AN/GRC-109 was approximately 35 years old in design. That it and the AN/GRA-71 Coder Burst Keyer were included may be due to *left-over stock* in Army inventory. Several other items of signal equipment are of similar age and were not normally used in the field, those too probably included just for completeness.

300 words per minute equivalent rate.⁴

Army references to equipment have been used for the simple reason of FM 24-24 being the most complete document available to show nearly all communications equipment for land force use. The United States Navy and Air Force branches also have similar documents but are grouped in specialty documents. Similarly, the military occupation specialties for the U.S. Army are all given at the www.goarmy.com website.⁵ There are only two, possibly three, military occupation specialties involving morse code skill mentioned in the generalized precis of each MOS: Special Forces Communications Sergeant and Communications Intelligence Analyst (MOS 98C), possibly Intelligence Signals Collector and Analyst (MOS 98Y). None of those specialties are involved in routine tactical or strategic communications for the U.S. Army.

Anyone who is a member of Army Special Forces is an extraordinary human.⁶ Special Forces mission tasks are not explained in detail for good reason. There is no certainty that a Special Forces Communications Sergeant will actually use Morse Code skills, only that he must demonstrate minimal skill in that to become a Communications Sergeant specialist.

Military Intelligence analysts are basically *intercept specialists* engaged in the task of determining what the *other side* is communicating in order to provide U.S. forces with knowledge of *other side* tactics, plans, and conditions. The Army has one Military Intelligence school facility at Fort Huachuca, AZ. That M.I. school is also engaged in training other branches of the U.S. military, has billets on-post for other branch training units, plus has outlying branch schools at USN land posts. The M.I. school does teach Morse Code cognition, using commercial computer programs

⁴ There is no indication this Coder Burst Keyer was ever used during or after the Vietnam War. There is no listing of any recorder for a receiver output of that high rate. 300 words per minute is beyond human cognition of any Morse Code signal and a recorder would be absolutely required to complete a message transfer. It is assumed that this unit was intended to insure some security with the technology available just after World War II. It is also assumed that some kind of receiving recorder was once available although such is not listed. Cryptographic equipment for on-line encryption and decryption of teleprinter (data) existed in USN radio communications by late 1940, in Army communications by early 1941, both sometimes identified by the label of *SIGABA*.

⁵ The Army uses the acronym *MOS* in reference to a soldier's specialty. USN and USAF may use another term to mean the same thing, that of the task specialty and training of a military member. Army MOSs are currently given as a two-number general specialty group identifier followed by a single letter denoting more detail of that specialty.

⁶ Army Special Forces members share the same rigorous physical attributes of USN *SEALS* in addition to their specialty skills.

as indicated in older pages on the Fort Huachuca Military Intelligence School course curricula.⁷ By that same information of curricula, M.I. students might relay intercepts and analysis reports using already-existing robust encryption communications equipment to other U.S. forces. Such relays would not be done by slow, error-prone Morse Code means.

There is the romantic notion of the brave behind-the-lines radio operator tapping out intelligence information via Morse Code. Such is over-dramatic fiction popularized by the motion picture industry, usually about World War II in Europe that ended 63 years ago. In today's land war environments the emphasis is on speed of communications to avoid probability of intercept and the relaying of messages through military communications satellites or orbiting aircraft. This latter condition further reduces the probability of intercept by more directional antenna beams that do not radiate RF in all directions. During the 1991 Persian Gulf War of 16 years ago, there is evidence that the AN/PSC-2 UHF (225 to 400 MHz)⁸ portable set was used during Operation Desert Shield from inside Iraqi lines. The PSC-2 had a keyboard and small LCD screen plus internal data encryption, capable of 1200 BPS communications. It had three antennas including a minimal parabolic reflector for satellite communications. The present portable set is the AN/PSC-5 *Spitfire* with greater throughput, wider frequency range, and more robust encryption.

One of the most overlooked military radio communications sets is the *SINCGARS* or SINGle Channel Ground-Air Radio Set. It is the most numerous of any radio communications set, over 300,000 produced and fielded since 1989.⁹ The AN/PRC-119 *family*¹⁰ operates at low VHF, 30 to 88 MHz, voice or data mode, in-clear or encrypted (built-in communications security) with a selectable single-frequency or frequency-hopping mode. The newer models, part of the Advanced Sincgars Improvement Program or ASIP, include a GPS receiver for automatic internal clock setting to insure network timing, at half the width and weight of the original SINCGARS manpack set. It is the mainstay

⁷ Similar to the redesign of the Training and Doctrine Command website since 11 September 2007, specific details on M.I. school curricula is available only to those with a DoD access certificate; i.e. military personnel. Considering that curricula were once released for public disclosure, stricter access controls are probably more in line with reducing the workload of computer servers rather than some security classification.

⁸ The 225 to 400 MHz part of the UHF spectrum is common to many militaries as an *aviation band* to be used only by military aircraft and relay satellites.

⁹ News release in Military Information Technology Online, 13 September 2006, by ITT Systems Division, Fort Wayne, IN, and Army Central Electronics Command, Ft. Monmouth, NJ. The same *milestone news* item appeared in several paper and Internet news services at about the same time.

¹⁰ The PRC-119 is the basic manpack version. It is also communications-interchangeable with the AN/VRC-87 through VRC-92 vehicular sets and the airborne unit, AN/ARC-201.

of the Army's tactical network.¹¹

The SINCGARS replaced the AN/PRC-25 and AN/PRC-77 voice FM portable sets of the Vietnam War era with the PRC-119 and older FM voice vehicular radios with the VRC-87 through -92 SINCGARS vehicular sets.¹² Neither the SINCGARS or FM voice sets it replaced have any direct Morse Code mode communications capability. Several handheld transceivers have been offered to the U.S. military for short-range communications, all of them compatible with the SINCGARS voice-data encryption and frequency-hopping communications-interchangeability features. The United Kingdom and some NATO member countries have adopted the SINCGARS compatibility, notably the UK's *Falcon II* now being produced by Harris Communications in New York.¹³

In this writer's personal experience of active duty 1952-1956, the U.S. Army had only one MOS requiring Morse Code skill: Field Radio. Passing required demonstration of 20 word per minute sustained rates. Equipment used for that mode was principally the improved-from-WWII-versions of the AN/GRC-26 mobile HF station. However, in typical field use of the *Angry-26* in Korea, the preferred use was radio-teleprinter and voice.¹⁴ Korean War communications was carried out mainly by wire circuits, short-range AN/PRC-6 handheld VHF voice transceivers plus the left-over SCR-300 *Walkie-Talkie* manpack voice FM transceivers. The hilly terrain and sometimes-impossible to wire land routes were overcome by AN/TRC-1 through TRC-4 VHF FM radio relay sets, each capable of handling four simultaneous voice circuits through transportable frequency-multiplexed *carrier* equipment. Each voice circuit could be augmented by four simultaneous teleprinter circuits, also by multiplexed TTY carrier equipment. A single AN/TRC-1 radio relay link could accommodate two voice and eight teleprinter circuits in a 25

¹¹ The original PRC-119 had connection capability to an AN/PSN-11 GPS handset for internal timing update. The ASIP not only reduced overall size and weight but included a GPS receiver. Rather than use a number of front panel controls, main control for the *hopset* or network constants and keys for frequency-hopping with a tactical network, a touch-screen is used. That touch-screen also includes self-diagnostics and operator prompts to insure proper settings and radio set condition.

¹² The PRC-25 and PRC-77 appear almost identical from the outside, the difference being the -77 replacing the tube used as transmitter output amplifier in the -25 with a solid-state device. Both sets had only four operator controls: Two *channelized* frequency selector switches, a receiver squelch and audio volume control. According to some radio collector aficionados, 125,000 radio sets were produced of those two types. SINCGARS family has eclipsed that production figure by more than twice.

¹³ Security questions about copying the encryption and frequency-hopping-direction algorithms by other nations is not a great problem for tactical communications concerns. Setting up the key in the *hopset* entry insures that the so-called scrambling of encryption is robust enough to withstand field intercepts by *the other side*.

¹⁴ The post-WWII version of the AN/GRC-26 was equipped with a five-level teleprinter and frequency-shift keying with simultaneous lowered audio voice modulation with RTTY FSK, both on receiving or transmitting.

KHz bandwidth radio channel.¹⁵

For so-called *long-haul* HF communications, the U.S. Army set up the worldwide ACAN or Army Command and Administrative Network during the latter part of WWII.¹⁶ The principle communications mode was teleprinter, either single-channel or four teleprinter circuits time-division multiplexed to one 850 Hz shift FSK transmitter or several teleprinter circuits over *commercial-format-bandwidth* Single Sideband radio circuits.¹⁷ While voice circuits existed, those were used mainly for radio link operation and maintenance personnel as *order wire* reserved circuits. The overwhelming majority of communications was by teleprinter with each station in ACAN having its own teleprinter relay operations.¹⁸ The teleprinter message network had its own location code apart from the radio station identifier; several radio stations might relay a single message but the teleprinter code was used by the teleprinter message handlers. After about 1948 the ACAN never used any Morse Code mode messaging.

The USN and USAF used similar networks, both principally between shore stations (USN) or air bases (USAF). The Navy kept up the use of Morse Code mode until some time in the 1960s when ship-to-ship and ship-to-shore communications converted to teleprinter and/or voice. The VLF and ELF alert transmissions for USN submarines use an enciphered data format sent at a slow rate to compensate for attenuation of seawater while submerged. According to the illustrations of U.S. Navy submarine *radio rooms* (at www.fas.org), there is no Morse Code equipment seen or described on *boomers* (colloquial term for missile-launching submarines). While the maritime

¹⁵ The AN/TRC-1 family and soon-to-follow UHF radio relay sets of AN/TRC-8 family first saw action in late 1943 in Europe during WWII. AN/TRC-1 radio relay links were kept operating during the *Battle of the Bulge* in Belgium and later aided communications during the *Berlin Blockade* of 1948, using a newly-devised *half-rhombic* wire antenna to increase the effective radiated power of the 50 Watt transmitter. The four voice-channel frequency multiplexer operated on the scheme of civilian *Type C* carrier equipment to put four 3 KHz bandwidth voice circuits in a total of 12 KHz. This *CF-1* unit was augmented by *CF-2* carrier equipment to frequency-multiplex four TTY circuits into a 3 KHz voice bandwidth channel.

¹⁶ The name of the network underwent several years of acronym changes, resulting in DCS or Defense Communications System by 1963. The network itself remained intact until it was replaced as the primary message relay system by the DSN or Digital Switched Network. HF radio was relegated to a standby role as *backup* for communications by the late 1970s.

¹⁷ 12 KHz bandwidth composed of four separate 3 KHz voice channels from carrier equipment.

¹⁸ This writer put together a photo essay of his personal experiences and equipment used that is available on a 6 MB PDF file at <http://sujan.hallikainen.org/BroadcastHistory/uploads/My3Years.pdf> with a similar document, digitized from a Signal Corps booklet circa 1962 made available from a retired Department of the Army civilian engineer at <http://sujan.hallikainen.org/BroadcastHistory/uploads/AlphabetSoup.pdf>. The booklet was produced by this writer's former military battalion and the retired engineer worked at the same station where I was assigned and checked the personal document for accuracy.

world was an enthusiastic early user of radio for communications, the large military navies have taken to other forms and modes of communications. The civilian maritime world has adopted the satellite-relayed Global Marine Distress and Safety System or GMDSS, dropping the old 500 KHz International Distress frequency that required Morse Code skills. The United States Coast Guard stopped monitoring the 500 KHz frequency over five years ago.

In Mr. Gordon's *Petition* footnote 14 on page 6 he states:

"Morse code telegraphy was a highly skilled profession in the U.S. Armed Forces, at least until the end of the Korean Conflict in 1953."

I disagree with the *highly skilled* adjectives. Telegraphy [cognition] skills are no more *high* than any other military skill. All military tasks are specialties and few take any precedence over others. To those of us who passed through recruit depots entering (at least for Army) the service between WWII and about 1960, our basic aptitude tests included a form of Morse Code cognition. Those who scored high on that particular test can be assumed steered towards a specialty school involving Morse Code. Cognitive ability in Morse Code is not a basic aptitude in all humans nor can it be achieved by those without such aptitude simply by *working hard at learning it*. The militaries of the world have generally just dropped Morse Code skills as necessary for military communications, just as the United States has dropped it. With the increasing technology of electronics there is no need to retain the simplest and most primitive of radio communications means available back 111 years ago.¹⁹

While the military branches continued to teach Morse Code past the *first truce year* of the Korean War, they have eventually dropped it for the purposes of communications.²⁰

The United States government has no visible sign that it uses Morse Code mode for communications, save those that

¹⁹ Radio as a communications means was first demonstrated in 1896 (Marconi in Italy, Popov in Russia). Early radio is technologically primitive requiring brute-force radio frequency generation by damped-wave oscillation. The first vacuum tube amplifiers were not yet invented until 1906; the first useable circuits using vacuum tubes had to wait some more years. However primitive the technology was, the maritime world took to it enthusiastically because it was the first method they had ever had to reach beyond the visible horizon of the sea. From that enthusiasm and personal aggrandizement of maritime telegraphers was born a *mythology of morse [code]* that endures in this new millennium.

The Army Signal Corps collar insignia is a torch centered over two signal flags. While signal flags during day and torches during night were used into the American Civil War for field communications, that method was already obsolete and unused by the time of World War I. No mythology of signaling by semaphore happened in armies of the world although the navies preserve it, apparently for some sort of *tradition value*. The Army just uses the *symbolic value* as part of an insignia, no more than that.

²⁰ The Korean War went into a state of truce in July, 1953. That state of truce has remained essentially unchanged for 54 years. Korea is still divided and the Korean *War* has not ended.

might remain with the Federal Communications Commission.²¹ There might be some need in one or more of the agencies of the Intelligence Community, however that is pure speculation given those agencies' obvious need for secrecy. Suffice to say that the Intelligence Community is involved in *cryptographic codes* rather than Morse code; Morse codes are nothing more than dot-dash representations of characters in the *western* languages and not some *secret code intended to obscure communications*.

Is there any civilian job or task that requires skill in Morse Code? Not for any occupation other than Commercial Radiotelegraph Operator. Other than on the Great Lakes or open ocean, vessels on water must use VHF voice in harbors and inland waterways, something that can be done by most any ship officer. On the open ocean the civil maritime world in changing over to voice and one of *TORs* (Teletype Over Radio modem) for data, both on single-channel, single-sideband HF. There is no Morse Code mode used in any communications service on land, none in air.²² Space communications does not need primitive Morse Code on-off keying for the few manned space missions that occur, not even as a *last-ditch resort* to emergency communications for re-entry.

Is there *any* civilian radio service that even *uses* Morse Code? *One*, the Amateur Radio Service. In the USA the FCC allocates Morse Code mode as an *option* for radio amateurs on HF, UHF, and microwaves. The FCC allocates two small slivers of the 6 meter and 2 meter band as "CW" (on-off-keying CW) exclusively.

Mr. Gordon writes at the bottom of his page 3 the following:

"III. The Morse Code Examination Element for the Amateur Extra Class Operator License should be kept in the Public and National Security Interest as a Hedge against Future Threats in the War Against Terrorism, as well as for Future Emergency Communications Requirements."

"4. The Commission is clearly obligated to promote Amateur Radio by Congressional Policy [in reference to Public Law 100-594 as indicated in his footnote 8 at bottom of page 4]"

I have carefully read PL 100-594 of 1988, and its amendment via H.R. 3265 in 1989, and its continuing amendment

²¹ The Commission still grants Radiotelegraph Operator licenses. While all testing for commercial radio licenses is also privatized and in the hands of the *COLEM*, the Commission also reserves the right to independently test (or retest) any licensee. Presumably that would require some Commission personnel having Morse Code skills better than tested rates for Radiotelegraph Operator licensees.

²² Air carriers need for a radiotelegraph operator as part of the crew of long over-ocean routes ended about in the 1970s. Air carrier aircraft crew can use voice on HF SSB or satellite relay for such communications now.

of 1990, and have yet to interpret any of them to specifically “*clearly obligate the Commission to promote Amateur Radio*” over and above any other radio service regulated by the Commission. In my view the Commission does a reasonably clear job of treating all civil radio services fairly, not favoring one over another. *Promotion of Amateur Radio* is a subject for amateur radio membership organizations.

As to retention of the Morse Code examination element 1 (Morse Code cognition) only for Amateur Extras, Mr. Gordon fails to make a clear case for that...even in the nebulous “*Public and National Security Interest*” and the emotional hysteria of “*Hedge against Future Threats in the War Against Terrorism*”! Does Mr. Gordon think that radio amateurs of any class can beat off terrorists with code keys? Apparently he is still considering radio amateurs to be “*warfighters*” in some un-named militia or para-military force. All that Mr. Gordon has done is to invoke emotional and hysterical jingoism about some licensed radio operators enjoying themselves in a hobby.

In fairness, Mr. Gordon might possibly make a case for “*Future Emergency Communications Requirements.*” “*...even if the consensus view or technological trend is in the opposite direction at the present time.*” [top of his page 4] Unfortunately, he make no case for the second quote except to draw a parallel to “*Army’s continued use of heavy armor after the end of the ‘Cold War.’*” I should like to point out to Mr. Gordon that he is not talking to the Department of Defense and that United States radio amateurs do not use any “*heavy armor*” in *ham* activity.²³ As a veteran of the United States Army I have walked alongside and ridden heavy, armored, tracked vehicles and as a civilian I have done similar at the Desert Warfare Training Center at Fort Irwin, CA. If Mr. Gordon can demonstrate competency in sending and receiving Morse Code from a tracked “*heavy armor*” vehicle while it is in motion, he is invited to do so. The United States Army gave up that mode from Armor units’ communications in WWII, favoring voice FM radios.

Mr. Gordon continues on his page 4:

“In the Amateur Radio Service, there is no way that the Commission can accurately predict the future national security and emergency communication requirements for the Amateur Radio Service, and it would not be in the public interest for the Commission to watch one of its ‘core-competencies’ diminish without requiring a basic minimum examination

²³ Most local governments forbid the use of large, heavy tracked vehicles in residential areas unless transported there by mover vehicles that distribute their load over many tires to lessen damage to local roadway pavements. Some radio amateurs using power amplifiers with their transmitters running at maximum permitted RF power might consider their radios as the equivalent of “*heavy armor*” but that is merely a humorous turn of phrase. Most radio amateurs operate from residences, mobile in their personal vehicles, or on foot using small handheld transceivers.

requirement to secure its long range survival as a critical operating mode.”

Apparently Mr. Gordon is privy to some future information unknown to the rest of us. Again, he invokes jingoism by attempting to equate United States Amateur Radio as some sort of group of supermen defending the “*long-range survival*” through testing in a “*critical operating mode*” which is, presumably, Morse Code. I should like to remind Mr. Gordon that the use of Morse Code has diminished in other radio services, if and only if it was ever considered as a viable mode of communications when a radio service was created. All those other radio services have survived quite nicely without dependencies on Morse Code, even in the maritime radio world. The number of licensees in the United States Amateur Radio Service have continued to increase until 2003, kept increasing because of the large number of those who entered via the no-code-test Technician Class license.²⁴

Having observed the United States Amateur Radio Service for approximately a half century, participated in the Comment period on NPRM 98-143, NPRM 05-235, and most of the Petitions that were made in between the two Notices of Proposed Rule Making, plus carefully reading the Commission’s statements in subsequent Reports and Orders following, 99-612 and 06-178, I would conclude that the Commission has carefully thought about each Docket and considered all the Comments and Replies to Comments thereto. I see no real fault in the process, have seen no national need of radio amateurs to become *warfighters* against some *terrorists*, either before or after 11 September 2001's Attacks. Having been an unwilling participant in two major earthquakes in southern California, 1971 and 1994, I have yet to understand just how some amateur radio Morse Code user could have anticipated those emergencies or adequately helped the Public Safety and Utility Company workers in their aftermath...they certainly could not prevent such, both of which were Acts of God, not of “terrorists.”

Adequate preparation for emergencies is proper planning, organization, utilization of resources available, and continued training, drilling, observing the execution of drills and modifying plans if there appear to be better ways to perform emergency tasks. The real test of emergency preparedness can only be done in a real emergency. In the Los Angeles, CA, area this was proved in the Northridge Earthquake of January, 1994. That earthquake killed 53 outright due to collapsing buildings. The entire population of Greater Los Angeles (about 10 million) were suddenly cut off from all electric power due to a falling transmission line tower. The relatively new Greater Los Angeles emergency communications center was activated and all Public Safety agencies were able to communicate using their backup emergency power. Communications was coordinated between Public Safety agencies and the various Utility

²⁴ While this is a discussion item in itself, data available on such public statistics sites as www.hamdata.com show a continuing expiration of amateur radio licenses with the long-term increases of new, never-before-licensed individuals barely keeping up with expirations. This should be expected from the normal human attrition due to the large number of individuals who became licensed in the 1960s.

and Construction companies who would bear the brunt of repairs. The fallen tower was made upright and the area was able to reconnect to the Pacific Intertie of electric power. Section by section was brought back from a *Black Start* (full power outage) and some order restored while victim searches and rescues were done. The emergency planning and organization did work out and those involved did their jobs as best they could. It was not a flawless operation and lessons were learned, incorporated into future plans. This was not an act of “terrorists” and no amount of Morse Code skill would have helped the radio operators immediately involved, all of whom were professionals who used their radios as part of their work. Most radio amateurs in this large urban area were caught unawares, the same as all citizens; few had emergency power capability and none were seen aiding the search and rescue operations immediately after the first earthquake. Adequate future planning for emergencies did work and the continuing training and drilling improved that.

One cannot anticipate every possible emergency contingency that might happen. One could not anticipate the terrible despicable acts of suicidal air carrier hijackers on 11 September 2001, not even the vaunted Federal Bureau of Investigation. Could Morse Code skilled radio amateur have helped before the fact? Highly doubtful. The Amateur Radio Service is composed of licensed radio hobbyists, not investigators, not trained military *warfighters*, not a part of the Army’s *Force XXI* as the Army planned to be in this new millennium. Radio amateurs are hobbyists, not investigators nor public morals watchdogs nor primarily emergency workers nor military personnel. All citizens are expected to help other citizens during emergencies and disasters, not just radio amateurs.

On page 5 of his Petition, Mr. Gordon headlines a repeat of his previous as:

“IV. The Morse Code Examination Element for the Amateur Extra Class Operator License should be kept as a “Strategic Reserve” in the Public and National Security Interests for Future Emergency Communications Requirements.”

Why? Again, Mr. Gordon has not made any viable case for the efficacy of Morse Code as any sort of magic elixir to miraculously cure some unnamed, unthought-of future communications *problem*. Title 47 C.F.R. has long had the proviso that, in emergencies involving possible loss of life, there are no limitations on frequency or mode use to call for help. The Commission has long since anticipated *real emergency situations*. Morse Code mode is not the panacea that Mr. Gordon claims, it is merely the very first mode used in the first radios for communications, said radios being so technically primitive that on-off keying was the only means to effect any communications information transfer. Being “first” is not necessarily related to being “best”...except in the fantasy filled minds of those who are unable to cope with reality of radio technology and use as it exists today...and certain individuals who cannot accept agency decisions about regulations made with careful, deliberate study of many citizens’ comments and wishes on those regulation changes.

There is no necessity for the United States Amateur Radio Service to maintain any sort of pool of trained (Morse Code skilled) radio operators for any sort of national need. The only *pool* that could possibly be considered is for radio amateurs favoring Morse Code whose number would diminish due to license expirations. That sort of *pool maintenance* defies a normally-generous Commission giving radio amateurs great leeway in their individual selection of *already-available mode use options*.

It is my opinion that Mr. Gordon's Petition for Reconsideration on FCC 06-178 Report and Order and to reconvene any commentary on Notice of Proposed Rule Making 05-235 be summarily dismissed without prejudice. The public has already had months to comment on the NPRM and the Commission has taken nearly a year to arrive at a decision and issue a Report and Order concerning the issue. That seems quite adequate in comparison to the Commission's actions on other NPRMs, not only about the Amateur Radio Service but other Radio Services under its aegis. A decision has been made and it is time to stop re-arguing matters because a few did not get their desired answer.

I thank the Commission for doing its proper regulatory job for all citizens of the United States.

Very sincerely,

Leonard H. Anderson

Retired (from regular working hours) Electronics Design Engineer

Amateur Extra class Amateur Radio Service licensee

Life Member, Institute for Electrical and Electronic Engineers, a Professional Association

Member, American Radio Relay League

ex - RA16408336, USA, Sergeant, Signal Corps, 1952 to Honorable Discharge in 1960