K9YA Telegraph

Robert F. Heytow Memorial Radio Club — Volume 2, Issue 10, October 2005



Whither Morse?

"...Reservoir of... Trained Operators..."

Philip Cala-Lazar, K9PL

Federal Communications Commission, §97.1 Basis and purpose.

The rules and regulations in this part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:

(a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.

(b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.

(c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communication and technical phases of the art.

(d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.

(e) Continuation and extension of the amateur's unique ability to enhance international goodwill.

There, in a succinct 126 words, is Amateur Radio's reason for being, its raison d'être.

"...Amateur Radio's reason for being..."

Now there's the FCC's recent Notice of Proposed Rule Making and Order (NPRM) 05-235. It's a long document, I suggest you read it, but paragraph 47 is especially pertinent to this discussion:

Conclusion

47. In summary, we believe that the public interest will be served by revising the amateur service rules to eliminate the telegraphy testing requirement. We also believe these proposed rule changes will allow amateur service licensees to better fulfill the purpose of the amateur service and will enhance the usefulness of the amateur service to the public and licensees. We therefore seek comment on these proposed rule changes. We conclude that some rule changes by some petitioners are unnecessary, or are already being considered in the ongoing Phone Band Expansion NPRM proceeding.

Now read again §97.1, especially clauses (a), (c), (d) and (e):

(a) *...providing emergency communications.* What gets through with minimal gear and low power like CW?

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In the Beginning

My Path to Amateur Radio

David Pilote, VE3DPC



David Pilote, VE3DPC

I first became interested in radio early in my childhood when my father would log stations with his Zenith Trans-Oceanic shortwave radio.

I had a brief encounter with a crystal radio set my brother and I managed to get going by hooking up the antenna to the sliding patio doorframe.

In the 6th grade I made a closed-loop magnetic Morse code project from sheet metal, roofing nails, wood, wires and a dry cell battery. I still wonder where that unit got to.

During high school, I was exposed to CB radio and electric guitars! Yes, citizens band—my father had a 40-channel rig in the truck and there was much talk about antenna/cable, reflections and strange radio skips deep down in the United States. Many nights were spent out in the truck during lightning storms listening and talking to truckers near and far—I think one night an Alabama truck blasted through right up into central Ontario–but it could have been from Ohio–I guess I'll never know.

"I was going to learn Morse code and get my license."

I studied a Boy Scout book that described Morse code. As a wannabe Boy Scout raised on a farm I was a self-taught camper, too. A TV show called "Adventures in Rainbow Country" caught my eye and ear because they had a base station and the characters carried handheld radios during their outdoor wilderness adventures around Lake Huron. The "Andy Griffin Show" also gave me that radio romance when the sheriff's squad car pulled up with a huge VHF antenna bouncing around—you really couldn't miss it!

During my three college years (1982-1984) at George Brown in Toronto, where I studied for a three-year electronics technology diploma, I met a fellow student who played guitar and was a Ham from eastern Canada. Along with another student, we uncovered an old transmitter room up near the rooftop of a building on campus and started cleaning and repairing the equipment. I received a plaque for most active member. We put up a dipole antenna and I remember the moment another member made a CW contact to Germany I was hooked. I was going to learn Morse code and get my license.

TRY TRY TRY!

With all the course load and living away from home, I never had the chance to get it together, but I was slowly gathering books and information about radio. I landed a job working for an Ottawa company that designed RF coaxial cable intrusion detection systems. These systems worked in the 40 MHz ISM band and I learnt a lot about RF and soil conductivity while I traveled around North America, Europe and the Middle East.

In 1990, I tried a Ham Radio night course at a local high school, but was pulled away to go on the road. I tried again in 1992, but just could not stick to the code for some reason. Some of the distractions could have been the road or courting my wife or playing the guitar. I actually gave up my job, rented out my old school house home and tried a music career. Then, when a serious relationship was imminent, I reentered the electronics field and landed a job with a theatrical lighting company servicing and installing dimmer systems and lighting boards, but on the road again.

I changed jobs and started work for the Ontario Science Centre in 1997 where I currently design and fabricate science exhibits. The Science Centre has a Ham Radio station, VE3OSC, which, at first,

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intimidated me a bit. However, as time went on I slowly struck up conversations with several of the members. Alf, VE3ALF, who runs the station and is a follow employee, soon had me up on the roof working on the antenna system and making adapters, etc. I started paying regular visits (hanging out) to the shack were I picked brains. In 2002, Jean, VE3WAD, insisted I talk on a 2m/ILRP link to someone in Arizona, I was slowly being hooked again.

The Accident

In May 2003, I was involved in a motor vehicle accident where I was rear-ended and suffered a whiplash injury. Somehow, John, VA3JE, who is technically my elmer, started teaching me the code. I thought it was now or never–the pain in my neck was somewhat lessened with my new task–and the activity was like medicine.

I listened to code generated by my Palm m130 while commuting to work. Several OSC volunteer Hams including Tom, VA3TY; Stan, VE3HT; and Jail, VE3SOC, helped with advice and encouragement.

VE3OSC History

The Ontario Science Centre station began operation in 1970. The station operated for fifteen years, manned mostly by volunteers from the North Toronto Amateur Club.

In 1990, to commemorate the Canada/Russia Arctic Trek, a new QSL card was designed and the station revived. New, all-Canada, cards were designed in 1994 and used for nine years. The present card was designed to represent the beautiful natural setting within the city of Toronto skyline: nature, science and man.

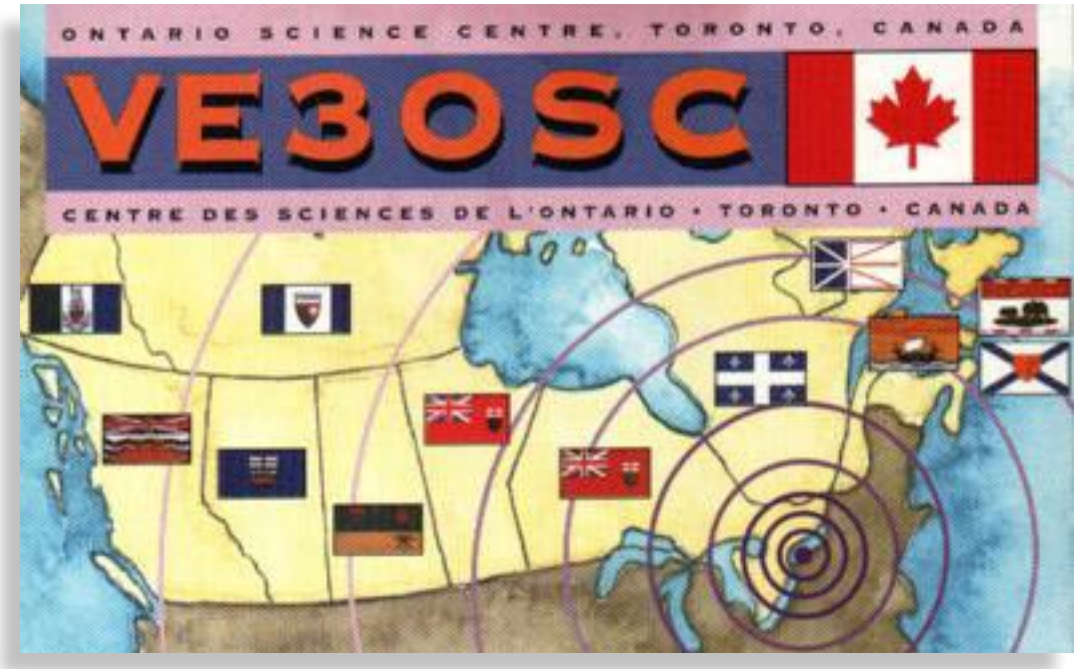


John Evelyn, VA3JE, (L) & David Pilote, VE3DPC (R)

QSO Futures

My activity in Ham Radio still oscillates, but recently I've built a RockMite 40-meter QRP transceiver, a Frankenkeyer and started making my own brass key. I like QRP/CW, but have to practice to stay sharp. Recently I brought a radio to the Pointe Au Baril Lighthouse Station CAN #393 and CAN #1040 on Georgian Bay (Ontario) and became the first to "activate" them for the Amateur Lighthouse Station Society.

I'm planning to do it again next spring. I also want to build an Elecraft KX1 or an AT Sprint 3 QRP rig. ■



QSL Card from Ontario Science Centre Amateur Radio Club

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All About Mobile Morse

Paul Signorelli, WØRW



Paul Signorelli, WØRW/pm with his 50w Military Backpack operating CW at Old Colorado City

The efficiency of Morse Code (CW) when propagation is poor is widely known. The effective gain for CW vs. SSB has been calculated at +18 dB, that's three "S" units, a huge difference. Five watts of CW, by this equation, equals 240 watts of SSB (http://www.mtechnologies.com/pubs/qrp.htm).

Another advantage of CW is the ability to work break-in during a contact. CW is a great mode for low power mobile stations. I have collected a few notes about mobile CW operation over the years and listed them in categories below.

Vehicular Mobile...

Many amateurs have operated vehicular mobile on CW and it is very common to find a mobile station on any band. The County Hunters Net use a lot of CW rover mobiles to get to those rare counties. KC5UN, Tom, stresses the safety aspect of operating CW mobile from a motor vehicle–rule one is always: DRIVE THE CAR. No matter what happens with the radio, paddles, etc., given the consequences, driving the car comes first. It's best to operate while stopped, however, either light traffic on controlled access highways or traffic jams are acceptable for some people (not an endorsement of this type of operation).

Vehicular CW operation and driving at the same time is very easy, but it is very hazardous. I operated on the LA freeways for years and was lucky. I used to have freeway-to-freeway QSOs with Don, W6AM/M on 20 CW back in the 1960s.

Needless to say, the old mechanical Vibroplex bugs always send extra dots going over bumps and when making left-hand turns. They are not very practical for today's CW mobile.

Bike Mobile...

Some people have been able to operate CW bike mobile, but I would suggest that CW bike mobile is very dangerous too. I have three friends who were recently injured in bike accidents and they never even heard of CW. I don't think anyone could send QRX while going over the handlebars.

The laws of physics remain in effect for bikers, F = MA (Major Accident). These CW bike mobile guys sign their calls with the suffix /BM, but I call it Big Mistake. There are many SSB bike mobiles and they are a lot less distracted than CW bikers.

Pedestrian Mobile... Be Peripatetic!

"...that night when that bear snuck up on me..."

I have never had any dangerous situations occur when operating pedestrian mobile, except that night when that bear snuck up on me, (see October 2004, *K9YA Telegraph*) and during that lightning storm.

The main prerequisite for operating mobile CW is the ability to copy code in your head. The ability to copy 30-wpm (copying words, not letters) is a great asset. If you can only copy code sitting at a desk writing the code down letter-by-letter, you will not have any fun walking down the road trying to copy code, but it will help you learn how.

Obviously, you need to be able to know all the operating abbreviations and be able to send on a paddle, bug or straight key. Your radio should be able to operate break-in and split. I use the call and suffix WØRW/PM for pedestrian mobile, if I am stationary, or my pack is sitting on the ground, I sign WØRW/P.

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Location, Location...
or, Never Operate in a Valley

QRP or pedestrian mobile operation from deep valleys causes great discouragement because surrounding mountains eat up RF energy. Mountaintops are good places to operate from, but lightning hazards from storms must be avoided.

Actually, any spot with a low horizon is good for HF mobile operation. Always, always, stay away from power lines–receiver noise will tip you off if you get near one.

Propagation, Propagation...
It All Depends on the Sun...

Nothing goes beyond the horizon without propagation. Check the HF propagation forecast for favorable conditions before you set out on a long trip.

Logging... You Don't Have To But...

The easiest way to log when operating any pedestrian mobile is on a little pocket memo pad. The Elecraft KX1 has a log sheet that can be attached to the bottom of the KX1. To use this log you have to flip the KX1 over to use it. The process gets a little cumbersome and you can knock the tuning dial off frequency or inadvertently bump the key. When operating contests, where you need a log and a dupe sheet, the memo pad is a little difficult to use because you have to pull it out of your pocket, record the information and return it to your pocket. The log I use for contests is a "cuff" log, like the NFL QB play sheet. This allows you to have your log/dupe sheet right at your operating position.

> *"...stay away from power lines..."*

When my XYL is along with me on hikes I just call out the callsigns to her and she adds the time, name, location and other data. I usually sign my call, WØRW/PM, for U.S. stations but most DX stations don't understand what that means, so I use WØRW/M for DX.

I keep a log and sign WØRW/PM when I am a walking mobile so guys who are trying to get the HF Pack 6 pack award will know they have worked a pedestrian mobile. There is a nice HF pack certificate available to anyone who works 6 HF pedestrian or human-powered mobile stations. It is called the "6 Pack" Award. Send your contact list to Bill, K6ACJ, or Virgil, K5OOR, to apply. KC5UN, Tom, does his mobile logging with a small voice recorder–tape or digital. They can be quite inexpensive and are virtually hands-free–read that, "safer than writing stuff down while driving." He uses a verbal shorthand when dictating to the recorder.



Paul Signorelli, WØRW/pm
Near Pikes Peak, CO

Equipment...
Get It All "Built-in"

The best equipment to use is the one with the least number of attachments. Try to get everything built in. Built-in memory keyer, built-in battery, built-in automatic tuner, CW filters are necessary these days and few of the military backpacks have them. The fewer wires and strings attached to your backpack, the easier to use. My experience with the Elecraft KX1 has been very good. It has internal batteries, antenna tuner and key.

Counterpoises...

Quarter-wave whip antennas are only half of the antenna, all quarter-wave antennas need counterpoises. The drag wire counterpoise is the other half of a dipole. Some people think the drag wire is a drag. Many have tried to wear a capacity plate or put a downward pointing resonant whip on their back. I never have too much trouble with my drag wire because it always stays behind me and has a breakaway clip. The drag wire keeps your body farther away from the RF energy than a capacity plate would, and is thus safer.

Your whip antenna will have less loss in the direction of the drag wire. If you want to maximum signal to the east, walk west. The effectiveness of a pedestrian mobile whip and drag wire is very similar to normal mobile station operation except pedestrian mobiles usually run lower power.

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Ham Radio, A Keeper

Daniel Meloche, W1DPM

I guess it is human nature to resist change. In my father's day it was commonplace for a person to work at the same job, live in the same house and, unbelievably, stay married to the same person for a lifetime.

Today, people change jobs as often as they change automobiles and for sale signs appear on homes shortly after the sold sign is taken down. We are a country in constant flux. There are, however, some things not intended to change or discard on a routine basis–one of those things is Ham Radio. I have always believed Ham Radio was a lifetime commitment. Regardless if you earned your license at a young age or in later years, it was over only when you became a silent key. Hobbies that require physical health are soon cut short or curtailed due to advancing age, while others requiring keen eyesight and hand/eye coordination, succumb to the advancing years.

Ham Radio is one hobby that people of all ages can enjoy well into old age–evident when enjoying contacts with a cross-section of young and old operators. Even poor eyesight and illness cannot prevent us from pursuing our love for Ham Radio.

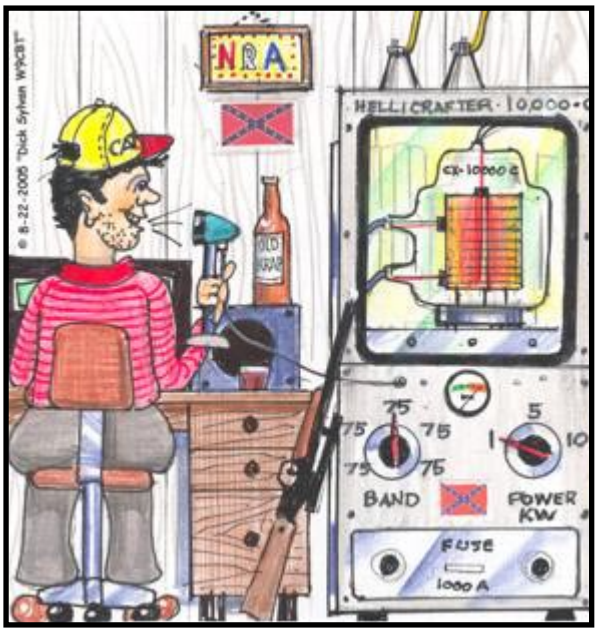
Why the big discussion about longevity you ask? Recently, I learned, as most of us now know, that Ham Radio as we know it is about to disappear into the "Black Hole of Change."

In the early 70s, like many of my friends, I was hooked on CB radio. In those days it had not deteriorated to the extent it has today, but it had not reached hobby status either. It was inexpensive, easy to get into and totally unregulated. That said, for many of us it became a stepping-stone into a lifelong love affair with Ham Radio. We had to learn electronic theory; we had to have a license. In addition, most of all, we had to learn Morse code. These things set us apart from the CB crowd, rather than settling for five watts, Smokey the bear and a handle, we earned full legal power, the world and a license from the FCC.

The proposed new changes to eliminate Morse code testing, in my opinion, will have a devastating effect on our lifelong hobby. Some things, integral to the service, especially the code, made us feel like Ham operators. You couldn't just go out and buy the hobby; you had to want it bad enough to earn it. I fear the day is near when anyone can enter a Ham Radio store, put down his money and walk out the door with a radio. Upon arriving home, he simply removes the enclosed application, fills out the form and mails it in–voila–instant Ham!

Recently, my grandson, Nathan, got into Ham Radio, I told him he had to learn the code and the theory. I wanted him to work for it because I believed that then and only then, would he appreciate and cherish this great hobby. I understand the driving force behind this move is to swell the ranks of Ham Radio by making it easy to get involved. I got mine the hard way and I'm glad I did. I hope this wonderful pastime does not disintegrate into a CB radio culture that does not know or care to know about our great traditions. ■

Ham Quips "75m QRP"



"Seventy Fahve Meetahs Seems in Good Shape So Ah Cut Mah Power Down to One Kilowatt"

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CONTINUED - MOBILE MORSE FROM PAGE 5

I use a shorted quarter-wave stub drag wire to keep my radio from being zapped by static on mountaintops. Like other vehicles, most bike mobiles use the vehicle's frame for a counterpoise.

RF Safety... Be Safe...

You can input your radio's power and antenna into the University of Texas RF Safety Calculator at http://n5xu.ae.utexas.edu/rfsafety/

CW average power is calculated as a function of the sending duty cycle. If I run 50 watts, with a CW duty cycle of 20%, my average power is 10 watts. If you use zero dBi on 14 MHz, with no ground reflections, you get a safe controlled area distance of 0.5 foot, (4.6mw/cm^2). That's the safe distance from you to your antenna.

Detrimental effects from RF are mainly internal body parts heating. Any 20 watt HF radio will be within the RF safety guidelines. There is less body exposure from an end fed half-wave whip than a quarter-wave whip. My homemade RF calorimeter tests show maximum heating of an HBM occurs at the low impedance area of the antenna. Make sure you warn nearby observers that your transmitter might upset pacemakers, and other medical electronic devices.

Radiation from the sun is worse than the radiation from the radio, remember to protect yourself from the sun.

Don't forget to use mosquito repellent with DEET. The risk of getting West Nile virus is high right now.

Take a flashlight and your ID for those midnight hikes.

Don't try to evade the local police chopper, if they spot you, just wave.

More Info

There is a lot more information about portable and mobile operation on the HF Pack Web site at http://www.hfpack.com The new Yahoo groups HF pack CW reflector is at http://groups.yahoo.com/group/hfpack/ ■

A List of Common Portable/Mobile Suffixes Courtesy of KQ6XA

/P = Portable
/BP = Backpack Portable
/PM = Pedestrian Mobile
/M = Mobile
/MM = Maritime Mobile or Marine Mobile
/AM = Aeronautical Mobile or Air Mobile
/BM = Bike Mobile
/HM = Horseback Mobile (or pack animal)
/KM = Kayak Mobile (or canoe)
/HPM= Human-Powered Mobile
/WM = Wheelchair Mobile
/SM = Snowshoe, Ski, Skate or Scooter Mobile

Notes:

/PM Pedestrian Mobile
HF transceiving system carried by the operator while walking and operable while walking (AKA: Backpack mobile). Usually battery-powered.

/PM Walking Portable
HF transceiving system carried by the operator but mainly operable while stopped, standing, sitting, etc. No connections to stationary objects such as antennas and trees, usually battery-powered.

/BP Backpack Portable
HF transceiving system completely carried to the operating site by the operator on foot. Usually battery-powered. Antennas can be set up in trees or attached to other stationary objects.

/P Portable
HF transceiving system carried by any means, and set up at a location that is not the normal station QTH. Usually with AC mains power, generator or battery power.

Another variation of portable is "Picnic Table Portable"–going to a park or other outdoor location and setting up a temporary antenna and transceiver with battery pack.

Yet another variation is "Field Day Portable." Bring along an AC generator and a 100 watt transceiver–or a kilowatt. Set up a table, some chairs and a tower or a dipole in the trees.

/MM Maritime Mobile or Marine Mobile
Maritime Mobile is usually operation on a ship, boat or watercraft on the ocean or waterways connected to the ocean. Also, technically, when operating under "maritime" regulations, or in international waters.

Marine Mobile is usually operation on a ship, boat or watercraft on inland lakes, rivers and waterways. Also, technically, when operating the boat or ship under local regulations, not maritime regulations, not international waters.

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(c) *Expansion of the existing reservoir within the amateur radio service of trained operators...* New Hams will no longer have to learn Morse skills to earn their license.

(d) *Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communication and technical phases of the art.* One less skill advanced.

(e) *Continuation and extension of the amateur's unique ability to enhance international goodwill.* Morse, the international language.

The Way Ahead

I will not argue that the end of Morse testing means the end of Amateur Radio, or that keeping the Morse exam assures on-air civility, a high level of good operating practices and preserves a mode that gets through when others can't—those viewpoints have been harangued and flamed to death on the 'Net and mailing lists. Rather, how many assaults to the body of Ham Radio can it withstand before it no longer resembles the service that has given so much to each of us and to our society?

For most CW operators the end of testing will make little difference, there are sufficient "trained (Morse) operators" extant to last our lifetimes on the air. A couple of decades from now, however, and Morse may join other languages like Languedocien, Eryza and Udmurt–never heard of them? They're on UNESCO's list of endangered languages–will Morse end up on someone's list of endangered codes?

Similar, But Not the Same

Unlike the other elements of Amateur Radio testing, which require study (or, too often, memorization) sufficient to answer questions on radio theory, operating practice, rules and regulations, the Morse exam can be passed only by learning a rather exacting skill set. Though not so difficult nor time consuming as becoming fluent in a foreign tongue, a new alphabet must be learned, and the mind trained to seamlessly translate pulses (sound, light, vibration) into characters and thence words. Sending Morse well requires yet another skill set that can only be mastered through much practice.

Simply put, as long as there remains a Morse exam, operators whether they choose to use the CW mode or not, acquire a taste, a familiarity, with the form. Without that government mandated requirement it is likely only very small numbers of new Hams would put forth the effort to learn Morse. Human nature, like water, seeks the path of least resistance, and for all the rewards Morse operation delivers it takes time, patience, repetition and desire (or mandated necessity) to learn–it is not an innate human ability.

Well down the road, and with vastly diminished numbers of Morse operators occupying our traditional CW "subbands," the roar (already much more than a whisper) for more voice and (other) digital modes spectrum will easily drown out the few piping calls of Morse remaining. This assumes, of course, that a couple of decades from now the ARS still resembles something of the shape it acquired through a century of development and refinement.

On a self-referential note, in the June 2004 issue of the *K9YA Telegraph*, I opined:

We Hams are a romantic bunch, we revel in the use of venerable terms and techniques and we share traditions, some antedating the invention of radio. Over the decades they have proven their worth and utility and remain integral to the fabric of our service.

Can the world and the ARS survive without a vibrant and active population of Morse speakers? Of course, but it will be a poorer place for all that–there'll be fewer threads of gold running through our tapestry. ■

To comment (Proceeding 05-235):
http://gullfoss2.fcc.gov/prod/ecfs/upload_v2.cgi

To read others' comments:
http://gullfoss2.fcc.gov/prod/ecfs/comsrch_v2.cgi



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