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November 27, 1998

Magalie Roman Salas
Office of the Secretary
Federal Communications Commission
1919 M St. N. W., Room 222
Washington, D. C. 20554

Enclosed please find one original of my comments on docket WT-98-143, four copies, and two copies each for the additional three rule making numbers referenced in the caption of the docket (A total of eleven copies).

As required, I have also sent diskettes to the Wireless Telecommunications Bureau and the Commission's copy contractor, International Transcription Services.

Although not required, I have also placed my comments on Internet at:

<http://www.speroni.com/WT-98-143.html>.

Sincerely,



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FCC MAIL ROOM Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of) WT Docket No. 98-143
)
1998 Biennial Regulatory Review --) RM-9148
Amendment of Part 97 of the Commission's) RM-9150
Amateur Service Rules.) RM-9196
)
)

NOTICE OF PROPOSED RULE MAKING

Adopted: July 29, 1998 Released: August 10, 1998

Comments of:
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Comments on the process and intent of WT Docket No. 98-143.
Published November 27, 1998
<http://www.Speroni.Com/WT-98-143.html>

II. EXECUTIVE SUMMARY

Paragraph 4.

The enforcement process is important in maintaining the existence of the Amateur Radio Service. Without a fair, well-administered enforcement process, even clear rules will not be followed. Hopefully one outcome of the docket will be improvement of the enforcement process.

III BACKGROUND

Paragraph 7.

To an unfortunate extent some comments to this FCC docket are from persons having considerable pecuniary interest in the outcomes. Organizations such the W5YI Group and the related No Code International Inc. are generally recognized as being primarily interested in increasing their market (number of Amateur's), with perhaps inappropriately weak interest in the goals of self-training, technical investigation, emergency communications and the other important roles of the Amateur Radio Service. While these goals are not necessarily mutually exclusive, the Commission should recognize commercial interests that are in conflict with regulations requiring the Amateur Service be non-commercial in nature. The focus should be on docket actions that improve the quality of the Amateur Radio Service. Simply increasing the number of Amateurs should not be the Commission's priority. Amateurs with only a passing interest are more likely to acquire a license and to readily move on to others interests when their obligations to the Amateur Radio Service seem a personal burden. Clearly Commission resources should not be expended for this outcome.

Paragraph 8.

Upgrading through the series of license classes has promoted technical skills. This commenter will be sorry to see this educational aspect of the Amateur Radio Service de-emphasized. Hopefully other docket actions can address this and at the same time "modernize" the service. Improving the ability of the testing process so it provides better trained members of the Amateur Radio Service is a desirable goal.

Paragraph 9.

Actions taken under this docket should address skills to perform "emergency communications, advancing radio technology, improving operator skills and expanding the number of trained operators, technicians and electronic experts". The Commission should carefully weigh proposed changes to see if they contribute to those goals. Absent from discussion are metrics clearly showing how rule changes will accomplish the desired goals.

IV DISCUSSION

A. Number of License Classes

Paragraph 11.

It is unfortunate that this paragraph implies that the tasks of preparing and administering some examinations by VE's may be unnecessary. Participation in the VE program is one way in which Amateurs can serve the Amateur Radio Service and assist in the educational goals of our Radio Service. Enforcement, teaching, maintaining repeaters, emergency operation, personal and Web site development are just a few other, and the Commission should be on record as promoting all means of participation.

The Commission's burden or cost in maintaining the Amateur Radio database is not documented. It is the opinion of this commenter that beyond the existence of each record, the only significant costs are related to the volume of records processed. If Commission actions result in an increase of new applicants and simplified upgrading to higher class licenses, costs may well rise. In any case, consideration of the minor costs involved should not be an important factor in determining actions on the docket. Internet automation is and will be more important in controlling Commission costs for the Amateur Radio Service.

Neither of the points should be relevant to Commission action in determining the correct number of license classes.

Paragraph 12.

The statistics do show that the number of new Novice licensees are falling. In the period from Jan 98 through Oct 98 there were only 611 new licensees, although Novice licensees still account for 8.7% of all Amateurs. However, given time, the Novice license class will effectively disappear without action by the Commission.

This docket implies that a large portion of the problem is the Morse code requirement. This commenter disputes that. He feels that the requirements for even this entry license, without Morse Code, are onerous for young candidates (if we want the candidates to learn the material instead of just passing the test). Previous actions by the Commission for "Novice enhancement" have inadvertently "interfered" with an important intent of the Novice Class license - relatively low-cost entry into the Amateur Radio Service. When the license granted only HF CW privileges, it was not necessary to learn about subjects like repeaters, HF/VHF propagation, space communications, RTTY and packet radio. And with greater market demand in the recent past, the cost of CW-only equipment or kits was less of a barrier to entry. It is questionable whether anyone can really master all of these subjects immediately when obtaining their first license. This commenter was first licensed as WN8NMK and did not! It took years to acquire the knowledge, but in the meantime he was on the air and learning. With equipment capable of all of these modes now costing much more than a PC, it is not surprising that new entrants into the Amateur Service are decreasing. At least for the entry level licensees, equipment cost is a factor directly related to Commission regulations on power, frequency privileges and modes.

Statistics on the number of no-code Technician class licensees are often pointed to as proof that the Morse code is the problem. The ranks of the Technician Class licensees have increased about 21,000 (new licenses issued) in the last 17 months, while the net increase is only 14,750. The difference between net and gross figures demonstrate a strong interest in upgrades, even though it requires the learning of Morse code. The net increase must be viewed from the context of license term. Since the Technician license dropped the Morse code requirement in 1991, no license has lapsed. All are ten-year licenses that will only begin to expire in 2001. Comparing Technician Class licensees with the general population of Amateurs who have been licensed much longer produces false conclusions. The general population has a measurable expiration rate. When Technician Class licenses begin to expire in 2001, that class of license will also begin to shrink.

The point is, the Morse Code may not be the single problem in getting new entrants into the Amateur Radio Service. Today we compete with PC's, Internet and cellular phone technology, among others, for our youth's attention. We may be making an error to believe that the only way to grow the Amateur Service is by making it easier to acquire the license (which this commenter believes is the focus of this docket). Similar planning is responsible for the results of our education system. There are many analogies to be drawn: both can misuse testing to pass candidates to higher grades whether or not they are qualified.

The following table gives recent statistics for Amateur Radio licensing in Japan. It shows the shrinkage of licensing, despite having a no-code license with HF privileges for over ten years.

Year Ending March	New Operators	Year-on-Year Growth	Total Number Stations	Delta Stations	Yearly Growth
93	171,393	-3.90%	1,283,185	79,959	6.60%
94	162,608	-5.10%	1,325,527	42,342	3.30%
95	151,199	-7.00%	1,364,316	38,789	2.90%
96	114,528	-24.30%	1,350,127	-14,189	-1.00%
97	81,294	-29.00%	1,296,059	-54,068	-4.00%
98	51,032	-37.20%	1,219,850	-76,209	-5.90%

Statistics on Japanese Amateur Radio Operator and Station Licenses

Table 1.

Looking only at the number of Amateurs ignores an important regulatory issue. How many Amateurs can the frequency allocations support? Already we have saturation in the U.S. on many VHF/UHF bands in major metropolitan areas. The environment in Japan on some HF bands is similar, for example on 40 meters. How many Amateurs are sufficient for the existing allocations? With saturation comes illegal operation, creating disincentives for new entrants. The Commission has direct experience with this outcome with the Citizen Band Radio Service.

The ratio of licensed Amateur stations to 1,000 population is about 10 in Japan (and dropping rather rapidly), about 2.5 in the U.S., and 0.9 in the United Kingdom. If it is the goal of the Commission that the ratio in the U.S. be increased, a goal should be articulated. The relationship to saturation of frequency allocations and number of Amateur stations is a legitimate question that should be explored.

The unprecedented rapid growth in the last ten years has created an expectation of manufacturers and distributors of Amateur radio equipment, services and publications that the same growth rates will continue forever. Clearly the growth rate of Amateurs cannot, for long, exceed the population growth rate. The recent excessive rates of growth will not be long sustained, regardless of any Commission actions resulting from this docket liberalizing the examination process.

The Commission should address changes that will modernize the Amateur Radio Service and help it grow with members that will contribute greater numbers of *well-qualified communications experts* with a strong desire to serve their communities. Simply de-emphasizing or eliminating the telegraph requirements will not produce this result.

Paragraph 13.

VE burdens and FCC costs are again presented as the justification for this action. They should not be relevant, especially if Commission actions result in increased volumes of "610" transactions at increased costs (assuming identical processing systems).

Removal of the Technician Plus license class would restrict the entry level license for HF operation, unless a 13-wpm capability is attained. Candidates would find entry more difficult. Removal necessarily results in lowering the General Class license telegraph requirement to 5 wpm.

B. Greater Volunteer Examiner Opportunities.

Paragraph 14.

The proposed change seems valuable. There will be increased opportunities of testing with relaxation of this requirement. This commenter has had personal experience with difficulty in scheduling test sessions when three Amateur Extra Class VE's were unavailable. Assisting in the VE system is one way that Amateurs can demonstrate their contribution to the community. Allowing more Amateurs to do this would be a positive development.

It is possible to envision the entire VE system being administered by an Internet-based teaching and testing system that could reduce costs, verify student participation and at the same time improve opportunities for testing. This may be the subject of a future petition from a group of interested Amateurs.

C. RACES Station Licenses

Paragraphs 15 and 16.

It would seem that Military club stations could also be dispensed with, resulting in additional savings to the Commission. There are only 106 active Military club stations, and only 14 new ones have been processed since Jan 1995. This is less than the 249 RACES stations. By analogy the club call process is also adequate to meet the Military club station needs, and one wonders why this cost savings measure was not also raised in the docket.

It is not clear in the docket if termination of the RACES call signs will lead to termination of the RACES services. Hopefully the cooperation of local governments and Amateur Radio will continue to have the same legal backing of the Commission. If the Commission intends any action that would make it more difficult for the Amateur Radio Service to perform its public service responsibilities, they should be clearly identified so the Amateur community and organizations affected could comment.

D. Privatization of Certain Enforcement Procedures.

Paragraph 17.

This commenter has experience operating Amateur Radio in dense population areas (e.g. Tokyo), where the licensing authority did not have the resources to manage enforcement. Severe interference in UHF/VHF and in the small allocation HF bands was a continuing problem. This docket "suggests" (not explicitly) increasing the number of HF-authorized Amateurs by 20% (134,882 Technician Plus Amateurs will be grandfathered into the General Class HF allocations). Without a proportional increase in enforcement there is a danger of increasing disregard for Commission regulations.

Paragraph 18.

This docket appears to reject the ARRL's petition on Amateur Auxiliary participation in the enforcement process based on legal "technicalities". VEC's and VE's already assume Commission duties and legal responsibilities so it is not clear why we cannot assist in the enforcement process. The docket does not explain the details of why the Amateur Auxiliary cannot assist the Commission and in any case the details may be so legally complex that the average Amateur would find it difficult to competently comment.

A large number of Amateurs see an urgent need for increased enforcement actions and the Commission does not have the resources to address these needs. If the ARRL petition proposal cannot serve as a basis for improved enforcement, the Commission should offer clear alternatives. The Commission has the responsibility and management talent to specify how best the enforcement duties can be performed and is best placed to decide how the private sector can assist. Competent manpower and equipment are available in the private sector to address these needs. The Commission can and should determine how to use these resources.

E. Telegraph Examination Requirements

Paragraphs 19-24.

With removal of the Technician Plus license class (for cost savings?), there is no alternative to lowering the requirements for a General Class license to 5 wpm. To do otherwise would restrict new candidates. Since the goal of offering a lower barrier of entry to HF privileges will be accomplished with this change, there seems to be no real need to reduce the total number of telegraph examinations. Given four license classes (Extra, Advanced, General and Technician) there is no difference to Commission costs for the Amateur Radio Service for one, two or three different telegraph examination speeds. This commenter differs with the ARRL recommendations on this docket and asks that the speeds for the four license classes be 0 wpm (Technician), 5 wpm (General), 10 wpm (Advanced) and 20 wpm (Extra), respectively.

The ARRL proposed allocation changes in the 80, 40 and 15 meter bands penalize CW operators at the expense of expanded phone segments - 50 kHz on 80m and 15m, and 25 kHz on 40m. This commenter believes that while regrettable, it may be justified based on the assumed lack of use of these Novice band segments. He supports this portion of the ARRL proposal. However, the ARRL proposed changes for CW frequency privileges on these bands do not take into consideration that newer General Class operators may be less skilled in CW operation than present licensees. This commenter suggests that an exclusive 25 kHz Advanced/Extra Class CW allocation be created just above the current exclusive Extra Class CW segments. There would be a minor impact on General Class CW operators while maintaining some differentiation would provide a continuing incentive to upgrade skills. There is also an opportunity to create an exclusive Advanced/Extra Class 7125-7150 phone segment in the 40 meter band *without penalizing existing General Class phone operation*. This incentive should be considered, again to promote continuing education in the Amateur Radio Service.

There is no *immediate or compelling need* to further reduce required telegraph skills. The Amateur Radio community may seek a separation of telegraph, digital, satellite and phone licensing in the future. One could envision separate allocations for all these modes with differing skill requirements. The private sector could readily support three or four license classes in each of these skill areas (a total of 12 to 16 licenses), but the Commission's current processing system would be unable to support such volume.

There should be some recognition by the Commission that the proposed changes to the current licensing make it less relevant to modern technology and will not produce a large number of skilled and expert members of the Amateur Radio Service. Many Amateur are concerned that if we do not restructure to better address education and do not find ways to involve our youth in the use of our allocations, the long term survival of the entire service may be threaten. Will society need a large number of "experts" only capable of operating analog radios in the 21st century? The code vs. no-code issue is divisive and deflects our time and energy from more important issues. We can and must do better in involving youth in communications technologies. One clear need is the incorporation of digital technology into the licensing system. Dropping CW will not attract more of our youth into the Amateur Radio Service.

The ARRL has recently proposed that HF CW privileges be granted to all licensees. This commenter opposes the proposal because it leads candidates to purchase expensive HF equipment without the certainty that they will in fact attain the requirements for a General Class license. There is increased risk of improper operation in the HF phone bands, especially given the Commission's resource problems with enforcement.

The ARRL also proposes that all telegraph examinations be of the fill-in-blank type. This commenter agrees. A multiple choice test with detractors defined by the VE team can easily bypass the intent of testing, e.g. "What is the call sign of the transmitting station - A. W1ABC, B. JAMES, C. VEE987, D. XYZ&%\$".

Paragraph 25.

The ARRL has well documented the abuse of this exemption process. Clearly the large number of candidates using the exemption demonstrates misuse of its intent.

The existing regulations should not be disregarded. The medical profession at large is not qualified to pass on learning disabilities issues. Without a proper system of evaluation of individual candidates' capabilities, the regulations will be misused. The Commission should address the real problem and revise the existing process to reduce the number of individuals intentionally circumventing regulations. The current system has obvious deficiencies that can be remedied without placing an unfair burden on examinees with disabilities, nor raising serious privacy and confidentiality concerns.

This issue will likely be revisited in the future for individuals with learning disabilities seeking waivers on written examinations. Dyslexia, Attention Deficit Disorder (ADD) and other learning disabilities make it difficult (but not impossible) for many individuals to pass examinations. There are recent cases addressing exemptions from the conditions imposed on candidates sitting legal bar examinations and qualifications for participating in the PGA tour. This is not to say that society should not fairly treat individuals with disabilities by making compassionate exceptions to the rules. However the current Commission regulations on code speed exemptions are being misused. Exemptions are being promoted by organizations who have a financial interest in the result of more Amateurs.

The Commission, as other parts of our government, should provide for limited exemptions to its rules and regulations and in a manner not *discriminatory to the larger dutiful population*.

F. Written Examinations

Paragraphs 26-27.

Entry Level Technician License

This commenter recommends that the syllabus for the entry level license be revised to include more technical content. The existing Novice Class license examination is divided into ten elements as follows:

Rules and Regulations	122	25.6%
Operating Procedures	37	7.8%
Radio Wave Propagation	18	3.8%
Amateur Radio Practices	50	10.5%
Electrical Principles	53	11.1%
Circuit Components	26	5.5%
Practical Circuits	32	6.7%
Signals and Emissions	27	5.7%
Antennas and Feed Lines	36	7.5%
RF Safety	76	15.9%
Totals	477	100.0%

Statistics on the Novice License Class
Question Pool Elements
Table 2.

If the entry level examination is for VHF/UHF entry level, questions related to CW, HF (propagation, antenna and frequency privileges) and international rules such as related to third party traffic (unregulated domestically) could be removed.

The RF safety section could be simplified by replacing legal phrases with practical terms, e.g. "controlled" and "uncontrolled" with "Amateur" and "non-Amateur" households. The ideas for RF safety are procedural and the questions in the pool repetitive. How to use the tables could be a better focus of the questions, rather than multiple instances of their use (which does not require one to learn and be able to explain how to use the tables).

The treatment of technical subjects such as Ohm's law and other electrical principles, components and practical circuits is cursory and arguably just adequate for an entry level license. With a reduction in the number of questions as outlined in the preceding paragraphs, testing of technical subjects could be improved.

General, Advanced and Extra Class Licenses

The higher class license pools should be designed to be less repetitive in subject content. For example the General Class rules and regulations should not repeat material in the Technician Class license and the General Class license (which could add the international rules and regulations) should otherwise be comprehensive. Rules and regulations unique to Advanced and Extra class examinations should be few in number. Once covered in the entry level license, the RF safety element should not again be required for higher class licenses. (General, Advanced and Extra Class licensees should be no more capable of operating in a safe RF environment than entry level licensees, should they?). In general, the material for lower class licenses should be complete and well learned. Examinations for higher class licenses should address new information relevant to evolving technologies. The existing syllabus' should be extensively revised and kept current with advances in all technologies regulated by the Commission. Computer, network and Internet technologies are glaring examples of missing areas that could be considered part of the knowledge to be mastered by modern communication experts. Incorporating them would make Amateur Radio more relevant to our youth.

Sub-Element	Novice		Technician		General		Advanced		Extra	
Rules and Regulations	122	25.6%	64	14.6%	46	14.3%	72	12.5%	83	19.2%
Operating Procedures	37	7.8%	45	10.3%	33	10.3%	12	2.1%	44	10.2%
Radio Wave Propagation	18	3.8%	39	8.9%	33	10.3%	23	4.0%	22	5.1%
Amateur Radio Practices	50	10.5%	54	12.3%	55	17.1%	44	7.6%	45	10.4%
Electrical Principles	53	11.1%	27	6.2%	11	3.4%	110	19.1%	66	15.3%
Circuit Components	26	5.5%	30	6.8%	11	3.4%	74	12.8%	44	10.2%
Practical Circuits	32	6.7%	20	4.6%	11	3.4%	118	20.5%	44	10.2%
Signals and Emissions	27	5.7%	24	5.5%	22	6.9%	67	11.6%	40	9.3%
Antennas and Feed Lines	36	7.5%	40	9.1%	44	13.7%	56	9.7%	44	10.2%
RF Safety	76	15.9%	95	21.7%	55	17.1%				
	477	100.0%	438	100.0%	321	100.0%	576	100.0%	432	100.0%

Statistics on the Size of
License Class Question Pools
Table 3.

Higher class licensees should be examined in more detail on their knowledge of technical subjects. Random sorting of the multiple choice answers should be mandatory, instead of at the option of the VE team. The number of questions in a pool covering the same information should be controlled to some maximum, e.g. no more than two or three related questions in the pool. Removing much of the redundant material (i.e., that learned for lower class licenses) would allow the pool to better measure knowledge of new materials as well as giving the opportunity to add questions covering new communications technologies.

With communications technologies evolving into uses of computers and programming, it is now reasonable that these subjects be covered in Advanced and Extra Class examinations. Sections covering communications and computer technologies, protocols and digital components/circuits should be added and/or improved. Programming of simple communications tasks should be included, e.g. decoding analog signals. Likewise, knowledge of the Internet and simple Web site creation/maintenance are part of the communications environment of the next century. Web sites are becoming increasingly important for training and dissemination of local and regional Amateur groups and are applicable to emergency communications. Testing should include HTML. We now have the need to interface analog RF systems to Internet for emergency and other communication purposes.

Unarguably, information on how to interface RF communications to a home PC or server is easily now part of the basic knowledge required for communication experts, such as Advanced and Extra class licensees.

Additional Comments

A. Use of the FCC Amateur Database

The FCC database is being used for direct commercial mailings for products and services. For example, processing of Vanity Call Sign applications are solicited at a cost of \$29.95, while the FCC fee is only \$13.00 for a service easily done on-line via the FCC Web site. These types of "services" prey on uninformed participants in the Amateur Service. If the intent of releasing licensing records to VEC's is also for commercial use, the Commission should so state clearly. This commenter believes that such commercial use is not permitted under current strict separation of VEC activities and commercial interests. Privacy considerations should allow entrants into the Amateur Service an opportunity to authorize use of the electronic database for mailing or other commercial purposes. Unless licensed Amateurs specifically allow their personal information to be used for commercial purposes, all individuals and organizations using the FCC data base should assume it is not permitted. Actions from this docket could help clarify the rules before citizens seek redress through legal action.

B. Use of the Private Sector

The docket continually references cost issues in maintaining the Commission database as justifications for simplification of the licensing requirements. The private sector through the VE/VEC system has already contributed to greatly lowering the costs associated with the Amateur Radio Service. Technology exists to move the entire work to the private sector. An example of a successful all volunteer decentralized organization doing a similar type job is the development of the LINUX operating system and the early development of the Internet and browser technology.

Rather than moving to simplify licensing in the Amateur Radio Service to (arguably) reduce costs, the Commission could address legal and regulatory actions that would move the entire licensing operation into the private non-profit sector. However, this commenter feels that VEC's, in their current form, would not be the correct organizations to participate, since they have related profit motives (e.g. selling publications and training materials). They are already tempted to maximize profit at the expense of the Amateur Radio Service.

Given more private sector resources, the Commission could better focus on the definition of the Amateur Radio Service and serve as the final arbiter of the rules. The private sector could write the question pools, administer all tests, maintain a central data base of all licensed Amateurs and assist in enforcement. This commenter is confident that the private sector can and would do more, if asked.

C. Amateur Communications Service

The Commission now regulates a wide range of related technologies - wired and wireless - that apply to a gamut of services that did not exist even a decade ago, and the rate of change is increasing. The name "Amateur Radio Service" no longer describes what Amateurs do, and what we need to know to be experts in communication sciences. This commenter believes that the Commission should consider a name that more clearly shows the range of technologies involved. The name change to "Amateur Communications Service" is proposed, to be made coincident with expanded testing requirements for digital and computer technologies.

D. Communication Educators

This commenter has already suggested that, if required, enabling legislation be prepared to allow private sector resources to assist the Commission in enforcement. Another way the Amateur Radio Service could assist Commission goals is in better training our youth in these new technologies. A formal CE (Communication Educator) system modeled on the VE/VEC system could be used to certify Amateurs as Teaching Assistants for our private and public school systems. Our education system needs more volunteers to promote skills in advanced technologies. Often teachers simply do not have the background or time to acquire detailed knowledge in these rapidly evolving areas. A small tax credit for retired Amateurs might be an incentive for them to participate, and a formal certification system sufficient to permit the education system to accept the help.

The effort to build a competent CE testing system would be as significant an effort as building the current VE system. Tapping the skills of the Amateur Radio Service would make it possible. A formal CE system would create another way for the "Amateur Communications Service" to fulfill its obligation to increase the number of trained operators, technicians, and electronic experts. If necessary, enabling legislation could be prepared and promoted by the Commission to further guide the Amateur Radio Service in performing its obligations in this area.

Submitted Nov 27, 1998
Joseph Speroni, AHBA