

W5YI

Nation's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

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June 15, 1994

FCC CONSIDERING JOINING CEPT AGREEMENT

Reciprocal operating privileges with European Community could result

An inter-governmental meeting was held a couple of weeks ago between the U.S. State Department, the FCC and representatives of the European Conference of Postal and Telecommunications Administrations. This group is known primarily by its acronym: CEPT.

The CEPT team (out of Copenhagen, Denmark) had a very broad agenda dealing with spectrum and policy issues. Amateur licensing was but one very small item. Basically, CEPT is very interested in concluding an agreement whereby about 40 European nations would recognize the amateur radio license of the United States and vice versa.

Among others, the meeting was attended by Richard Shrum, Director, Radio Spectrum Policy for the U.S. Department of State and FCC staffers, Frank K. Williams (Chief, Treaty Branch), John B. Johnston (Chief, Personal Radio Branch) and Kathryn S. Horsford, (Deputy Chief, International Liaison.) We spoke to Shrum and Horsford last week. Dick Shrum's department negotiates international telecommunications treaties for the United States.

Conversation with the Department of State

W5YI: Just what is CEPT?

Dept. of State: It is an acronym for the Conference of European Postal and Telecommunications

Administrations. It is comprised of telecommunications regulators across Eastern Europe. We consult with them on major international telecommunications issues.

W5YI: We have heard that the United States may enter into an agreement with CEPT for mutual recognition of amateur radio licenses between different countries.

DoS: Yes, we have been working on that for some time. We here at the State Department will negotiate that agreement. But it is up to the FCC and the Private Radio Bureau to provide the details and the implementation of the agreement. We have bilateral agreements with a lot of countries.

W5YI: How does CEPT work?

DoS: CEPT is similar to the FCC. They are the telecommunications regulatory authority of certain European member countries. Our FCC does not speak for the United States when it comes to concluding agreements which are binding on the United States. The FCC has no authority to do that kind of business. It is the State Department that watches over treaties ...grants authority ...negotiates the agreements ...and things like that.

In the case of CEPT, it is like working with a lot of FCC's. They are really not the kind of body

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that we conclude binding agreements on the United States with. We have over the last 6 or 8 months carried out a lot of legal analysis ...trying to figure out how we could actually conclude an agreement with the CEPT countries under a provision that they have among themselves [on how to allow non-CEPT administrations to participate in the CEPT amateur licensing system.]

W5YI: What is the really the objective of CEPT relative to amateur radio licensing?

DoS: The CEPT member countries have come to an agreement among themselves to recognize each others [amateur radio] license. They have two different classes of license which is specified in the CEPT recommendation. You have to have a special license... Basically you can drive from country to country and just operate under your own national license provided it has been marked in a way that is recognized as an international license under the CEPT agreement.

CEPT has also made provisions for countries in other areas of the world to join with them in this recommendation. The United States is pursuing becoming one of these countries... Basically, [the agreement] will allow an American with a properly endorsed FCC license to go to Europe and operate their amateur radio equipment in all CEPT countries without further licensing. It would say on the license in several languages that this is a CEPT license. And amateurs of any of the CEPT European countries would be able to come to the U.S. and the FCC would also recognize their properly endorsed [amateur radio] license.

W5YI: All countries have different amateur radio requirements ...different telegraphy speeds, different written tests ...different license classes. How is this all resolved?

DoS: The approach CEPT has taken is to come up with two different [license class] levels. We refer to it as a reciprocal recognition approach. The FCC would have to determine how our present [amateur radio] structure would convert to these two CEPT license classes. We might have two or three categories of U.S. [amateur radio] licenses that would compare to a single CEPT license. For example, in a CEPT country - the Advanced and Technician license could be the equivalent of a CEPT Class 1 and 2 license class. There is a framework set up and it is part of the negotiating agreement to determine where you fit ...how your licenses fit among the others.

W5YI: What is the current status of the negotiations?

DoS: We believe that the FCC is very interested in concluding this agreement and we know the amateur community is [interested.]. A lot of amateurs have written to us through Congressionals and such. We

expedited our legal analysis on how we can actually conclude the agreement with these CEPT countries. That work was finished about 2 months ago and we are now at the stage where we have solved our legal questions.

Katy Horsford (FCC, Private Radio Bureau) is coordinating the agreement for the FCC. There are questions relative to modifying FCC license forms to meet the CEPT requirements. There are some serious questions. They may even have to go out with some sort of Notice of Proposed Rulemaking.

Conversation with FCC

Kathryn Horsford is the Deputy Chief, International Liaison Staff, in the FCC's Private Radio Bureau. Katy, an engineer, is the point of contact for international matters involving the private radio stations.

W5YI: Just what is the CEPT agreement?

FCC: CEPT is an organization of European nations that come together to agree on telecommunication issues ...not just amateur matters..

W5YI: How is the United States involved in CEPT?

FCC: We are on the outside looking in. CEPT Recommendation T/R 61-01 is an agreement among European countries for amateurs to operate in other member countries for short periods of time.

The agreement was originally adopted in 1985. In 1992, CEPT amended the agreement so that other non-European countries could become part of this recommendation. It allows international visitors to participate in amateur radio operations on a reciprocal basis.

CEPT basically breaks all amateur radio licenses down into two classes of stations; code with all privileges (CEPT Class 1) and no-code operations above 30 MHz (CEPT Class 2). We are really just starting to look seriously at becoming a party to this agreement.

W5YI: Is the Federal Communications Commission interested in participating in the CEPT Agreement?

FCC: We are certainly interested in evaluating the proposal. And we have agreed in principle that we would like to become a party to the agreement, but we do not yet know all of the details.

The licenses are required to be printed in three languages. We would have to evaluate what privileges we would recognize for the different classes of stations. The Recommendation talks about being valid for temporary stays which would have to be defined. There are many considerations that still have to be ironed out.

We have scheduled a working group meeting on this issue for tomorrow. I personally have only been working on this for about a week. It appears to me

that we must decide whether we want to join an agreement that was made among the European parties. It is not the same as coming up with an acceptable and negotiated agreement between CEPT and the United States. We have to evaluate how we can fit into their requirements.

We might have to convert 600,000 licenses to three different languages. Our licenses right now are not in three languages. Would we have to re-issue all licenses? Can we re-issue licenses on an 'as needed' basis ...or [issue newly worded licenses] on renewal? The very first thing we would have to do is print new licenses in English, French and German. And we are not yet set up to do that.

Yes, we agree in principle that we would like to be a party to the CEPT agreement and have European and American amateurs go back and forth between our countries with a minimum of paperwork. But we don't want to sign an agreement and then find out later that we have difficult administrative, operational and technical problems to deal with.

We are also concerned about maintaining the integrity of the amateur system in the United States. We want to make sure we understand what we are agreeing to ...and what is the recourse and impact on our amateur system

The FCC is also working on an international [amateur radio operating] permit for the Americas ...for North, Central and South America. It is a similar type of approach. This is being handled in another forum called CITELE, the Inter-America Telecommunication Commission.

W5YI: How does the CEPT agreement impact the FCC's proposal to temporarily license visiting foreign amateurs?

FCC: The effect is somewhat the same, but CEPT is a reciprocal arrangement that applies to only certain countries. The visiting foreign amateur matter applies to all amateurs visiting the United States. It is still being worked on.

[Editor's Note: There are currently two ways that foreign amateurs may be licensed to operate their equipment in the United States. One is to obtain a regular ten-year term license by passing the required FCC examinations. Second, amateurs of the 76 countries whose governments have signed reciprocal operating agreements with the United States may, on the basis of the amateur service licenses issued by their own countries, be granted one-year permits to operate amateur stations while in this country.]

The FCC has proposed a third way, a temporary visiting amateur operator's license. Foreign amateurs complete the whole process during one quick visit to a VEC coordinated exam session, either before or during the visit.

Teams of Extra Class volunteer examiners would (1)

review identification (2) inspect the foreign amateur's license and (3) determine extent of the operating privileges. The VEs would accept the foreign license as proof of qualification in eight of the nine subelements contained in the various question pools. The topic that is not covered by a foreign license is the FCC (Part 97) rules.

The VE team would then administer a 20 question written examination, Element 5. The question pool would consist of the FCC rules questions from each of the five existing question pools, about 400 questions. If the foreign amateur scores 18 or higher, the VEs would make a record of the examination and issue a Certificate of Successful Completion of Examination. The CSCE would authorize amateur operating privileges in the United States for up to 60 days - which could begin immediately. The beginning and ending date of the single 60 day period would be indicated on the CSCE. Operating privileges would be those authorized by the foreign amateur's own license that do not exceed those of a U.S. Amateur Extra Class operator. The visiting amateur would identify his/her station by prefixing his/her call sign with the letter "W" followed by the station's U.S. numerical area location.]

I called Katy Horsford back last Thursday to find out how the CEPT Working Group meeting went last week. She said "It went real well. We made substantial progress on looking at this issue. The CEPT agreement is indeed an interest to be pursued. We have taken no official position on the matter and are evaluating the agreement as it is drafted and its ramifications to our amateur community. We may have to pursue rulemaking since if we enter into the CEPT agreement we would ultimately have to change the rules... [to provide for the CEPT reciprocal licensing scheme in the United States.] We had an initial discussion to see if there were any unsurmountable problems and not only did we not find any unsurmountable problems; we found an approach to every problem we identified so far."

EXCERPTS: CEPT RECOMMENDATION T/R 61-01

Ms. Horsford FAXed us a copy of the 6-page CEPT Recommendation T/R 61-01 which spells out the provisions of the CEPT Radio Amateur License. Also contained was an appendix that discusses "Participation of Non-CEPT Administrations in the CEPT Radio Amateur License." Here are some highlights:

Recommendation T/R 61-01 (Nice 1985, revised in Paris 1992 and by correspondence August 1992)

"CEPT RADIO AMATEUR LICENSE"

Adopted by European Radiocommunications Committee
INTRODUCTION:

The Recommendation as approved in 1985 makes it possible for radio amateurs from CEPT countries to operate during short visits in other CEPT countries without obtaining an individual temporary license from the visited CEPT country...

The recommendation as revised in 1992 has the aim to make it possible for non-CEPT countries to participate in this licensing system.

THE EUROPEAN CONFERENCE OF POSTAL AND TELECOMMUNICATIONS ADMINISTRATIONS,

considering:

- a) that the Amateur Service and Amateur Satellite Service are Radiocommunications Services according to Article 1 of the ITU Radio Regulations and governed by other provisions of the ITU Radio Regulations as well as national regulations.
- b) that it is necessary to harmonize licensing procedures for temporary installation and use of portable and mobile radio amateur stations in CEPT countries and non-CEPT countries.
- c) that Administrations are responsible, in accordance with Article 32 of the ITU Radio Regulations, for taking such measures as they judge necessary to verify the operational and technical qualifications of a person seeking a radio amateur license. Additionally, the radio amateurs shall not be allowed to transmit on frequencies below 30 MHz unless they have proved their ability to send correctly by hand, and to receive correctly by ear, texts in Morse code signals.
- d) that the issue and administration of temporary licenses to foreign visitors based on bilateral agreements involves a considerable increase in work for Administrations.
- e) that certain Administrations have concluded or are drawing up agreements intended to simplify the current procedure for the issue of such temporary licenses.
- f) that the International Amateur Radio Union (IARU) supports the simplification of procedures to obtain temporary operational privileges for foreign visitors in CEPT countries and in other countries,

noting that

this Recommendation bears no relation to the import and export of amateur radio equipment, which is subject only to relevant customs regulations,

noting further that

despite the procedures of this recommendation, Administrations always have the right to require separate bilateral agreements when recognizing the radio amateur licenses issued by foreign Administrations,

recommends

1. that CEPT member administrations recognize the principle of CEPT radio amateur licenses issued under the conditions specified in Appendices I and II, on which the Administrations of the countries visited will levy neither duties nor taxes, only the Administration issuing the license being entitled to do so.
2. that Administrations, not being members of CEPT, accepting the provisions of this Recommendation, may apply for participation in accordance with the conditions laid down in Appendices III and IV.

Appendix I - GENERAL CONDITIONS FOR THE ISSUE OF "CEPT RADIO AMATEUR LICENSES."

1. GENERAL PROVISIONS RELATING TO THE CEPT RADIO AMATEUR LICENSE

The "CEPT radio amateur license" will take a form similar to a national license or a special document issued by the same authority, and will be drafted in the national language and in German, English and French: it will be valid for non-residents only, for the duration of their temporary stays in countries having adopted the Recommendation, and within the limit of validity of the national license. Radio amateurs holding a temporary license issued in a foreign country may not benefit from the provisions of the Recommendation. The minimum requirements for a "CEPT" radio amateur license" will be:

- i) a declaration according to which the holder is authorized to utilize his amateur radio station in accordance with this Recommendation in countries where the latter applies;
- ii) the name and address of the holder;
- iii) the call sign;
- iv) the CEPT license class;
- v) the validity;
- vi) the issuing authority.

A list may be added or provided indicating the Administrations applying the Recommendation.

2. LICENSE CLASSES

Each of the CEPT classes described below will only be considered as equivalent to a national class in cases where conditions of utilization in another country are not considerably broader than those in the country where the license was issued. The equivalence of national license classes from CEPT countries to the CEPT license classes is given in columns 4 and 5 of Appendix II. CEPT license class holders are authorized to utilize amateur radio in visited CEPT countries according to the national license class conditions of those visited CEPT countries as shown in columns 6 and 7 of Appendix II.

Class 1

This class permits utilization of all frequency bands allocated to the Amateur Service and Amateur Satellite Service and authorized in the country where the amateur station is to be operated. It will open only to those amateurs who have proved their competence with Morse code to their own Administration.

Class 2

This class permits utilization of all frequency bands allocated to the Amateur Service and Amateur Satellite Service above 30 MHz and authorized in the country where the amateur station is to be operated.

3. CONDITIONS OF UTILIZATION

- 3.1 On request the license holder shall present his CEPT radio amateur license to the appropriate authorities in the country visited.
- 3.2 Authorization is granted for utilization of a portable or mobile station only. A portable station shall, for the purposes of this recommendation, include any station using mains electricity at a temporary location, e.g. a hotel or a camping site.

3.3 Authorization is also granted for utilization of the station of a radio amateur holding a permanent license in the host country.

3.4 The license holder shall observe the provisions of the ITU Radio Regulations, this Recommendation and the regulations in force in the country visited. Furthermore, any restrictions concerning national and local conditions of a technical nature or regarding the public authorities must be respected. Special attention should be paid to the difference in frequency allocations to the radio amateur services in the three ITU Regions.

3.5 The use of the amateur radio station aboard an aircraft is prohibited.

3.6 When transmitting in the visited country the license holder must use his national call sign preceded by the CEPT call sign prefix as indicated in column 3 of Appendices II and IV. The CEPT call sign prefix and the national call sign must be separated by the character "/" (telegraphy) or the word "stroke" (telephony). For a mobile amateur radio station the national call sign must be followed by the characters "/M" (telegraphy) or the word "mobile" (telephony). For a portable amateur radio station the national call sign must be followed by the characters "/P" (telegraphy) or the word "portable" (telephony.)

3.7 The license holder cannot request protection against harmful interference.

4. EQUIVALENCE BETWEEN CEPT LICENSE CLASSES AND NATIONAL LICENSE CLASSES

4.1 The equivalence between CEPT license classes and national license classes in CEPT countries is given in columns 6 and 7 of Appendix II

4.2 The equivalence between CEPT license classes and national license classes in non-CEPT countries is given in columns 6 and 7 of Appendix IV.

Appendix II - TABLE OF EQUIVALENCE

This Appendix lists each of the CEPT countries (as of August 1, 1992), the CEPT call sign prefix to be used on the air and how national licenses convert to CEPT Class 1 and CEPT Class 2 license classes and how CEPT licenses parallel national licenses.

The CEPT countries are: Albania, Austria, Belgium, Bulgaria, Cyprus, Czech/Slovak, Denmark (including Faroe Islands and Greenland), Finland, France (and possessions), Germany, Greece, Hungary, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal (including the Azores), Romania, San Marino, Spain, Sweden Switzerland, Turkey, the United Kingdom (including Isle of Man, N. Ireland, Jersey, Scotland, Guernsey and Wales), Vatican City and Yugoslavia.

Appendix III - PARTICIPATION OF NON-CEPT ADMINISTRATIONS IN THE "CEPT RADIO AMATEUR LICENSE" ACCORDING TO THIS RECOMMENDATION

1. APPLICATION

1.1 Administrations, not being members of CEPT, may apply to the CEPT for participation in the CEPT radio amateur licensing systems regulated by this Recommendation. Applications should be addressed to CEPT European Radio-

communications Committee (ERC), through the European Radiocommunications Office (ERO is located in Copenhagen, Denmark.) A non-CEPT administration in joining this Recommendation enters into an agreement with all CEPT countries having implemented this Recommendation or will do so in the future. It should be noted that non-CEPT countries wishing to implement this Recommendation between them should do so by separate agreement.

1.2 The application shall include a list of license classes in the country concerned, their privileges and the proposed CEPT license class equivalents. Details of national examination syllabuses or documents describing the requirements of the national license classes and their privileges shall be enclosed with the application. All the details mentioned above must be submitted in one of the official languages of the CEPT (English, French or German.)

1.3 The applying Administration shall provide the call sign (prefixes) to be used by visiting radio amateurs, and details of any special conditions relating to the implementation of this Recommendation in the country concerned. Special conditions or restrictions should be confined to a minimum, and should not be imposed unless absolutely necessary.

1.4 A non-CEPT Administration having been granted special conditions as per 1.3, shall include these in a footnote in Appendix IV.

2. PROCEDURES OF APPLICATIONS

2.1 The CEPT ERC shall check, based mainly on Recommendation T/R 61-02E, each application to determine the equivalence of the national license classes to those specified in this Recommendation and to assess the acceptability of any deviations from the respective Recommendations which have been requested by the applying Administration.

2.2 When the ERC has agreed to accept the participation of a non-CEPT country it notifies the applying Administration and arranges for the CEPT Liaison Office to include relevant details in Appendix IV.

2.3 A CEPT Administration requiring a separate bilateral agreement to apply this Recommendation with a CEPT Administration, shall indicate this in a footnote in Appendix IV.

3. CONDITIONS OF UTILIZATION

The technical and operational privileges which apply for CEPT license holders from a non-CEPT countries are in conformity with the privileges of the appropriate national license classes indicated in Appendix II, columns 6 and 7.

Appendix IV - TABLE OF EQUIVALENCE BETWEEN NATIONAL CLASSES OF NON-CEPT COUNTRIES AND CEPT LICENSE CLASSES

This is a blank form for non-CEPT countries to indicate the Call sign prefix, and how their national license structure related to CEPT Class 1 and 2 - and what privileges are available to CEPT license holders when operating in their country.

[Editor's Note: The United States indeed appears to be heading toward concluding international agreements which provide for automatic amateur radio licensing reciprocity in foreign countries, but our overall impression is that it will take time - possibly a year or more.]

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PRIVATIZED COMMERCIAL RADIO TESTING

The FCC has released the first quarter 1994 results. NRE (National Radio Examiners) is the Commercial Radio testing division of the W5YI Group, Inc.

	No. of Examinees	No. of Elements	Elements Passed	Percent Passed
COLEM				
Elkins	1118	2192	1955	89.2%
NRE	568	1000	854	85.4%
ETAI	300	299	234	78.3%
Sea Sch.	131	155	119	76.8%
ISCET	207	381	290	76.1%
Drake	156	156	116	74.4%
NARTE	265	422	299	70.9%
NABER	44	44	24	54.5%
Sylvan	178	178	97	54.5%
TOTAL	2967	4827	3988	82.6%

Drake= Drake Training & Technologies, Bloomington, MN
 Elkins= Elkins Institute/Dallas, TX
 ETAI= Electronic Technicians Association, International/Greencastle, IN
 ISCET= International Society of Certified Electronic Technicians, Ft. Worth, TX
 NABER= National Association of Business and Educational Radio, Alexandria, VA
 NARTE= National Association of Radio Telecommunications Engineers, Medway, MA
 NRE= National Radio Examiners/Dallas, TX (W5YI Group)
 Sea Sch.=Sea School (Maritime), St. Petersburg, FL
 Sylvan= Sylvan Learning Centers, Columbia, MD

So far, the FCC has released five of the seven commercial radio operator question pools. These are:

Element No. and Description

- 1: Radio Law & Operating Practices
- 3: Electronic fundamentals & Techniques
7. GMDSS/Radio Operator (Global Maritime Distress & Safety System)
- 8 Radar Endorsement
- 9 GMDSS/Radio Maintainer (Global Maritime Distress & Safety System)

Element 1 (170 questions) and Element 3 (726 questions) are available in a single 336-page textbook with answer explanations: (\$19.95 + \$2.00 s/h). Passing Element 1 is required for the **Marine Radio Operator Permit (MROP)** ...both Elements 1 and 3 for the **General Radiotelephone Operator License (GROL)**.

The Element 7 (446 questions) and Element 9 (256 questions) are available for \$7.95 each pool. (Includes postage.) Credit card orders: (toll free) 1-800-669-9594 (or send check/money order: NRE, PO Box 564206, Dallas, TX 75356.) The question pools contain all multiple choices, diagrams and answers. The Element 8, **Radar Endorsement** pool is being worked on now and should be available for purchase in about 3 weeks.

MARCH VE PROGRAM STATISTICS

March No. VEC's	1992	1993	1994
Testing Sessions	871	1045	1161
<u>VEC</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
ARRL	47.0%	46.3%	52.5%
W5YI	38.5	41.1	32.5
CAVEC	4.2	4.2	2.1
WCARS	1.8	2.4	1.8
GLAARG	0.8	0.8	1.4
SunnyV	0.9	0.9	1.0
GtLakes	3.5	1.1	0.5
Others (11)	3.3	3.2	8.2
Year-to-Date Sessions	2394	2449	2739

Elements Administ.	1992	1993	1994
<u>VEC</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
ARRL	55.4%	51.0%	58.8%
W5YI	29.2	34.5	27.0
CAVEC	4.2	4.2	2.2
SunnyV	2.1	1.9	2.1
WCARS	1.4	2.7	2.0
GtLakes	2.0	1.1	0.5
Others (11)	4.5	3.0	5.2
Year-to-Date Elements	52586	46441	48153

Applicants Tested	1992	1993	1994
<u>VEC</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
ARRL	55.2%	51.0%	59.1%
W5YI	29.7	34.5	27.4
CAVEC	4.0	4.0	2.0
GLAARG	1.1	1.7	2.0
WCARS	1.5	2.8	2.0
SunnyV	1.8	1.8	1.9
GtLakes	3.0	1.2	0.4
Others (11)	3.7	3.0	5.2
Year-to-Date Tested	30907	27169	28028

March	1992	1993	1994
Pass Rate - All	67.5%	65.7%	66.0%
Applicants/Session	14.3	11.8	11.3
Elements/Applicant	1.7	1.7	1.7
Sessions Per VEC	48.4	58.1	64.5

Administrative Errors by VE's/VEC's

March	1992	1993	1994
Defect. Applications	0.4%	0.1%	0.5%
Late Filed Sessions	0.6%	3.2%	2.1%
Defective Reports	0.7%	2.4%	0.2%

Note: The two largest VEC's, (ARRL-VEC and the W5YI-VEC) accounted for 85.0% of all March 1994 test sessions, 87.8% of the exam elements and 86.5% of the applicants. There are 18 different VEC groups.

[Source: Personal Radio Branch/FCC; Washington, D.C.]

ENTIRE ARRL BIO-EFFECTS COMMITTEE QUILTS!

The ARRL Bio-Effects Committee is no more. The League's hand-picked committee of internationally acknowledged experts in the field of potential health risks from exposure due to RF radiation has resigned en masse.

It has long been known that high intensities of RF radiation can be harmful due to its ability to heat biological tissue rapidly. Tissue damage can result primarily because of the body's inability to cope with or dissipate the excessive heat. There is a wide disagreement, however, over exactly what levels of RF radiation are safe.

On June 1st, the League's Bio Effects chairman, Dr. Ivan Shulman (WC2S/Malibu, CA) wrote a stinging 5-page letter to League Pres. George Wilson, W4OYI, telling him why the Committee resignation was necessary. A copy of that letter was made available to us although not from current or past Committee members.

The current ARRL Bio-Effect Committee was appointed in January 1990 by then ARRL Pres. Larry Price, W4RA "...with the distinctive charge of revitalizing organized amateur radio's concern for the limitation of bio-effects hazards that might arise from the participation of individuals in the hobby of amateur radio."

ARRL Southwestern Division Vice Director Wayne Overbeck, Ph.D, J.D./N6NB was appointed as Board Liaison. Later, when Overbeck was no longer on the Board, he was appointed a full member of the committee.

"Since that time, the Committee has worked to re-write virtually all the sections pertaining to bio-effects hazards in all the ARRL publications offered to the public. In addition, the Committee has monitored and reported to the Board on current projects that the Committee has been involved in, including the FCC-EPA study of field strength measurements at various amateur radio installations in Southern California."

Larry Price apparently appointed himself to the position of Board Liaison in 1992. Dr. Shulman said he objected to Price speaking for the Committee without prior consultation.

"Early in 1993, the FCC issued Docket 93-62, an NPRM regarding the adoption of the ANSI/IEEE C95.1-1992 guidelines on bio-effects." The rulemaking sought to update regulations and methods used for evaluating the environmental effects of radiofrequency radiation based on a new standard. The old (1982) guidelines excluded many radio stations (including amateur radio.)

The new proposed 1992 ANSI guidelines are more restrictive and could require equipment manufacturers to demonstrate compliance in workplace (controlled) and residential (uncontrolled) environments where people are inadvertently exposed to RF energy.

The impact of the new guidelines to amateur radio is massive since ham operators are exposed to RF radiation on a voluntary (controlled) basis and their neighbors are exposed on an involuntary (uncontrolled) basis. The new guidelines also extend the frequency range under consideration from 3 kHz to 300 GHz - every ham band! Hand-held transceivers also are scheduled to come under new scrutiny. Previously, hand-held transceivers radiating under 7 watts were excluded.

Unbelievably, as important as this proposal was to amateur radio operations, the League's Board of Directors chose to exclude participation by its own chosen panel of experts, the ARRL Bio-Effects Committee.

When the Committee failed to get an invitation to participate in the proceeding, members of the Committee developed a suggested position that the League should take before the FCC. Receipt was acknowledged but the Committee was not notified of a position the League was going to adopt. "The Committee was kept completely in the dark with regard to the League's filing and was not informed in any manner as to any position to be adopted by the League in this matter."

"...because a deadline in January, 1994, was rapidly approaching, and because of their deep personal and professional concern regarding the importance of this issue, some members of the Bio-Effects Committee made an independent filing to the FCC as individuals, specifically indicating that they were not speaking from their position as members of the ARRL Bio-Effects Committee, but as private citizens."

On March 1, 1994, Committee members received a Fedex letter from League President George Wilson "...advising us of your distress in the entire matter of our filing. ...Further adding to the aggravation of members of the Committee is your statement that 'members cited their membership on the Committee to bolster their competency to speak to the subject.' That you should feel that Drs. Adey or Milham or any other member of the Bio-Effects Committee need the ARRL to establish their credentials and competency to speak to anyone on this subject is outrageous and insulting," Shulman angrily wrote.

ARRL Pres. George Wilson summarily fired Wayne Overbeck from the Committee for drafting the committee's original FCC comments - which he did at the direction of the Committee Chairman, Dr. Shulman. Apparently ARRL strategy was to fire only the Committee's in-resident lawyer and scribe to preclude further written positions.

Shulman pointed out that "It should be noted that those members of the Committee who signed the filing were not aware of, and had never been advised of any League policy regarding the independent expression of views of Committee members..."

"...despite recent promise to improve communications, ...the Committee has even been excluded from the development of a League response during the recently concluded time for reply comments in this NPRM." Shulman then detailed the action that the Committee was taking...

"The members of the ARRL Bio-Effects Committee plan to continue to contribute to an understanding by amateur radio operators of the issues relating to the potential bio-hazards of our activities as radio operators, and as such will remain active in our continued review of information and research in this field as it becomes available.

"We plan to remain available to any and all amateur radio operators who seek our counsel. We further plan to continue to speak out in matters that concern us as individuals and as private citizens as they pertain to our deep and fundamental interest in amateur radio.

"We will, however, not allow our names to be subject to the political machinations and narrow views of individuals who seek to use us for their own aims as "window dressing" for you or the League.

"It would be unfortunate for all amateur radio operators to suffer the repercussions of such a short-sighted view of things, particularly when they may result in long-term negative consequences to amateur radio as a whole.

"There has been a loss of confidence on the part of the members of the Committee in that you, as President of the League, are clearly not concerned with the continued successful functioning of this Committee, unfettered by extra-scientific and parochial influences.

"In addition, it is felt that your actions have subjected both the scientific as well as personal integrity of the members to serious compromise. There appears to be no reason that individuals who serve as unpaid volunteers to the League should be subject to such abuse.

"We have considered the consequences of our resignation both as individuals and as a committee as a whole. We stand together united in a common view that you do not see importance of this committee as originally constituted, that under your leadership, the League has ignored the important resources that the committee has to offer to all of amateur radio, and that you personally fail to understand the issues of personal integrity that this entire situation has raised.

"Therefore, it is with the deepest of regrets that we find that we must submit our resignation as the ARRL Bio-Effects Committee forthwith."

(Signed: Ivan Shulman, M.D./WC2S, Chairman;
W. Ross Adey M.D./K6UI;
Samuel Milham, M.D.;
David Rodman, M.D./KN2M; and;
Thomas Rozzell, ScD/WA4ZTT.)

CONTROL OPERATOR RESPONSIBILITY IN AMATEUR SERVICE MESSAGE FORWARDING SYSTEMS (News bulletin, June 2, 1994, FCC, Washington, DC)

"On April 13, 1994, the Commission released a *Report & Order* in PR Docket No. 93-85. The decision relaxed the amateur service rules to hold the control operator of the station originating a message primarily accountable for violative communications. The control operator of the first forwarding station in a message forwarding system is responsible for authenticating the identity of the station from which it accepts communications, or accepting accountability for any violation of the rules in messages it retransmits to the system. Previously, the control operator of every station in the system was responsible for the contents of every message the station transmitted.

Since the release of this decision, the Private Radio Bureau has received a number of inquiries indicating that there is a misunderstanding by some amateur service licensees about this rule change. The inquiries generally ask if the Commission's decision authorized automatic control of amateur stations transmitting a RTTY or digital emission on the amateur service frequencies below 50 MHz.

In its decision, the Commission amended Section 97.109(e) to allow a station participating as a forwarding station in a message forwarding system to be automatically controlled while transmitting third party communications. Section 97.109(d), however, limits automatic control to stations transmitting RTTY or digital emissions on amateur service frequencies above 50 MHz. This latter section was not amended.

The Commission currently has under consideration two petitions for rulemaking, RM-8218 and RM-8280, requesting that we amend Section 97.109(d) of the rules to allow automatic control of stations transmitting on the high frequency amateur service bands. These petitions were submitted by the American Digital Radio Society, Inc., and the American Radio Relay League, Inc., and will be addressed in a future proceeding."

- AEA's 1994 Amateur Ambassador Award (and a cash prize of \$1,000) goes to **Jim Stafford, W4QO** of Roswell, GA, for his work with the Atlanta-area **Radio-Active Schools** program which provides students and teachers alike with the opportunity to get hands-on experience with amateur radio, electronics and science.

- The Illinois State Senate passed SB-1159 on April 13th, to permit "...**closely held corporations if one of the shareholders is an amateur radio operator**" to **obtain automobile license plates with their call letters**. The measure is now in the House where it has been amended twice to include plate designs representative of a fraternal, community, collegiate or civic groups.

W5YI REPORT

Nation's Oldest Ham Radio Newsletter

Page #9

June 15, 1994

BULLET-PROOF TELEPHONES DESIGNED BY HAMS

The FCC receives some 25,000 complaints per year from individuals who are unable to use their telephones because nearby radio stations interfere with their proper operation. Whenever the radio stations are on the air, the telephones pick up the radio transmissions which then override any ongoing telephone conversation. The 25,000 figure is based on a detailed sampling of telephone complaints and inquiries collected one week a month by all of the FCC's field offices.

The FCC's Field Operations Bureau (FOB) recently conducted a study to obtain information about telephone interference from radio stations. Given the enormous numbers of instances in which this type of interference is experienced by consumers, it is the FCC's hope that the survey will serve as a catalyst for affected parties to productively address and resolve this problem. The FOB released the findings of that study last month.

The principal findings of the study are that although most residential telephones are susceptible to receiving interference, manufacturers can design telephones to be interference free.

During this study the FCC tested two models which the manufacturers claimed were immune from interference, and in virtually all cases they eliminated the interference. The telephones were the Western Electric/AT&T Desk Model available from Pro Distributors of Lubbock, Texas; and the TPXL-D Desk Model available from TCE Laboratories, Inc. of Canyon Lake, Texas. Interestingly, both telephones were designed and built by companies owned by ham operators. And both firms initially got in the business to relieve amateurs from telephone RFI complaints.

The study also finds that in-line filters cannot be relied upon to eliminate telephone interference. In two out of three cases in which they were tried during the study, they did not work.

FCC telephone survey

To obtain information for the study, 35 FCC offices across the country each investigated three recent complaints of telephone interference. At the transmitting station the offices determined the type of station and the power used by the station. At the complainant's location the offices catalogued which telephones received interference and which did not.

The FCC engineers then connected commercially-available filters to determine if these filters would eliminate the interference. The filters were connected to telephones while the interfering radio station was transmitting. Finally, the offices tested the telephones claimed by the manufacturer to be "interference free".

Findings

The FCC's Field Offices inspected 108 transmitting stations which were involved in the telephone interference complaints. The radio stations most likely to be involved in interference complaints are citizens band, broadcast, and amateurs. Citizens band stations accounted for half the interference, and broadcast and amateur stations accounted for the other half.

Interference caused by:

Citizens Band	47	Amateur	27
AM Broadcast	23	FM Broadcast	10
		International Broadcast	1

The power levels of the radio transmitting stations varied from two watts to half-a-million watts. One-third of the transmitting stations operated with less than ten watts, and one-third of the interfering stations were broadcast stations using between 3 thousand and 500 thousand watts.

FOB tested 241 telephones found in the complainants' residences. Sixty-eight percent of these telephones received interference.

The effectiveness of the AT&T Z100B1 filter was tested on 138 telephones receiving interference. After connecting the filter to the telephones, 62 percent of the telephones continued to receive interference. The filter did eliminate interference on 38 percent of the telephones. A number of other filters were also tested on 82 telephones receiving interference. As a group these filters eliminated interference on 29 percent of the telephones. They did not eliminate interference on 71 percent of the telephones.

The FCC conclusion: "Filters cannot be relied upon to eliminate telephone interference: in two out of three cases in the test sample. They did not work."

"Interference Free" telephones were tested at 52 locations where the individuals were receiving interference to their telephones. The "interference free" telephones eliminated interference at 96 percent of the locations. "Manufacturers can indeed design telephones to be interference-free. The 'interference free' telephones were immune from interference virtually all of the time."

The interference free telephones

Although not a trained engineer, **Bryan Edwards, W5KFT**, of Lubbock, Texas has been involved in the commercial side of electronics for many years. But Bryan's first love is contesting! He built a contest station last year which is about 60 miles northwest of Austin ...about 300 miles from where he lives in Lubbock. (Antennas: 160 foot tower, 4-over-4 over-4 elements on 20 meters; 2-over-2 on 40 meters. A second 135 foot tower has 5-over-5-over-5 on 15 meters and 5-over-5-over-5 on 10. He also has big array antennas on 6, 2, 432 and 1296. Transmitters: 3 TS-930's Kenwood each linked to Henry high power amplifiers - all

of which can operate simultaneously. Kenwood/ICOM gear for VHF/UHF ...a kilowatt on 6 and 2 meters.)

W5KFT also owns and operates Pro Distributors which, among other things, designs and markets in-house designed RFI-proof telephones and filters.

"This all started about four years ago when we had an RFI problem in our community. It became very, very nasty," he told us. "The FCC did an inspection and told the neighbors that the difficulty was their telephone. The problem ham station was given a clean bill of health and the complainants were advised to buy an RFI-proof phone. The problem is that they did not exist. Phone store telephones and filters simply will not work well against RFI. So we built one."

"We found that filters inserted in the line before the phone were very ineffective against RF. The telephone itself acts as an RF detector. The problem is with phone itself. Working with good tech people, engineers, and the phone company, we came up with a good design. We also located a particular type of telephone from Western Electric that is adaptable to being retrofitted. There are hundreds and hundreds of phones out there. Most are pure junk ...and cannot be modified."

"We ended up with a telephone which we sell for \$79.95 that we unconditionally guarantee is RFI proof. If it does not solve your problem, we will take it back - no questions asked. (Call free: 1-800-658-2027 if you want one.) "We have a small assembly line and several of our people are ex-telephone company employees. Our business has been basically a help business in what has been previously a hopeless situation; sales are up dramatically. We believe this the first time that the FCC has indicated products that would solve RFI problems."

The only other product mentioned in the FCC study is from TCE Laboratories, 2365 Waterfront Park Drive, Canyon Lake TX 78133. (Tel. 210-899-4575) but the situation is basically the same. The company is owned by long time ham operator, Tom Bruce, WA5LIQ. Although a 'double E' engineer, he said what he had learned about telephone RFI was self taught.

"The telephones that we sell are made and bought brand new from a factory in Mississippi. We take them apart and we add the necessary filtering components in the phones to bypass the RF signals around the sensitive components. I am able here in my lab to duplicate 'real world' telephone RFI conditions by injecting a 100 watt RF signal directly into a simulated telco line tied to our telephones and filters. Measured attenuation is on the order of 40 db. We guarantee that our phones will not intercept signals from the broadcast band through 30 MHz and will attenuate additional signals through the FM broadcast band and higher."

"We began by selling these telephones to indivi-

dual hams in our area for their own house ...or neighbors. It has snowballed and we now selling them to telephone companies, to the government, to AM, FM and shortwave broadcast stations ...and CBers."

TCE's telephones cost \$59.95 for a single line desk or wall mount. We asked Tom why big phone companies do not have RFI telephones available, and he said he thought it "...was a competitive and 'bottom line cost' situation. It would cost them a few dollars more to put the necessary parts into the telephone and their competitors do not do it. The public looks only at price."

In setting forth the results of its informal survey, FCC emphasizes that, because this survey is based on a random sample, it cannot be claimed that identical results would be derived under scientific surveying and testing, nor should the results be construed as FCC endorsement or criticism of any particular manufacturer's product. Rather, FOB believes these results to be a good "first look" at the problem.

Bureau Chief's comments

Richard Smith, Chief of the Field Operations Bureau, revealed more about telephone interference in a trade magazine, Telecom Exchange, published by Industrial Telecommunications Association. He used the term "bullet-proof" to describe the special phones, and seemed impressed by their performance.

"There are a lot of inexpensive phones being produced and sold everywhere," Smith said. "The telephone industry has made a decision. The majority of manufacturers take the position that it is not economically justifiable to put devices in all of their telephones to shield out the unwanted interference.

"The only thing I fault the telephone industry for not doing is that they don't offer shielded telephones as an option. I understand why they don't put filters and shielding in all of their telephones, but why don't they offer shielded telephones as an option? As far as I know, no significant manufacturer of telephones does that."

"When testing a house that is prone to radio frequency interference, we unplug one of the house phones and plug in one of the bullet-proof phones we bought down in Texas," he said. "Then we have the amateur licensee transmit. We pick up another house phone, and we hear the interference. Then we pick up the bullet-proof phone, and there is no interference. It is perfectly clear, no interference at all."

Smith explained that his staff advises consumers experiencing interference to buy at least one "bullet-proof" phone, but that consumers reply that the amateur should bear the cost. "It's not like the amateur is on the wrong frequency," he said. "A telephone has no 'right' frequency. It has no frequency at all. It is not like the amateur is operating incorrectly."