

FEEDBACK

*The OFFICIAL Newsletter of the
Georgian Bay Amateur Radio Club Inc.*

JANUARY 1995

Sponsoring

- VE3OSR FM REPEATER 146.940- Mhz BARROW BAY
- VE3OST FM REPEATER 145.290- Mhz OWEN SOUND
- VE3GBT FM REPEATER 146.895- Mhz MARKDALE
- VE3LD PACKET BBS 145.830 Mhz KEADY

REGULAR EVENTS

- | | |
|----------------------------|---|
| GBARC MEETINGS: | Fourth Tuesday of each month except July and August |
| BREAKFAST MEETINGS: | Second and Last Saturday of each month at Rockford Esso |
| GBARC INFORMATION: | For information regarding membership please contact
Tom Merner VE3NEM 519-371-9499 |

RAC NEWS BULLETIN 01-95 PACKET EDITION - 1 JANUARY 1995 Issued at RAC Administrative Office 614 Norris Court, Unit 6 Kingston, ON K7P 2R9 Editor: Cam Inglis VE3UXN @ VE3CDY Packet Editor/Transmission: Steve Cutway VE3GRS@VE3CDY

KANATA FIRE DEPARTMENT EMERGENCY COMMUNICATIONS PLANNING

The Kanata, Ontario, Fire Department has joined forces with local Amateur Radio operators to provide for emergency communications needs. The Kanata Fire Chief initiated the move that resulted in a fully operational Amateur station located in the fire hall. Kanata firemen and Amateur volunteers worked together to install the new station. In the event of an emergency, local Amateurs will provide communications for the Kanata police, fire department and relief organizations.

According to an item in the Ottawa Amateur Radio Club bulletin, the fire department radio station was installed so that if, and when, a disaster occurs, designated volunteer Amateur Radio operators could proceed directly to the fire station and begin providing immediate communications assistance. The station is equipped with a Kenwood 702A transceiver working from a Diamond X300 antenna.

In addition to the many Amateur Radio repeaters in the Ottawa-Carleton region, the local Emergency Measures Unit recently commissioned a new Amateur Radio repeater (VA3EMU), for the exclusive use during an emergency. One of the many features of the new repeater is the ability to interconnect (autopatch) with the local telephone network. This feature will allow volunteer Amateurs to communicate with any of the services the City or fire department may require in the event of a disaster in Kanata.

CALGARY EMERGENCY HAM ATV BIG HELP TO THEIR FIRE DEPARTMENT From Calgary ARA Key Klix

Key Klix reports that the Calgary fire department has been so impressed by what the Ham ATV operators have been able to do for them that they have decided to call them out for the next major fire. A 24-hour call out sheet has been organized by the club.

STILL HOPE FOR PEACE BETWEEN JORDAN AND ISRAEL

The recent thawing of relations between Israel and Jordan was apparent by the appearance of Jordan's King Hussein, JY1, on an Amman, Jordan repeater, according to the Israeli newsletter HaGal. When Jonathan, 4Z9FHB, called CQ, JY1 answered and proceeded to work the young Amateur.

HaGal also reports that discussions have taken place between the two countries' Amateur Societies, on "technical cooperation" and "plans for a very special DXpedition, yet to be announced. A recent report indicated there were now 11 VHF and 4 UHF repeaters in Jordan.

HAM NEWS ABOUT CHINA From Calgary ARA Key Klix

At the IARU Region 3 Conference in Singapore, the delegate of the Chinese Radio Sports Association, BZ1HAM, submitted a document which gives the prefix line-up in China as follows:

B VHF/UHF stations and contest stations on the mainland BA Class 1 individual home stations BD Class 2 individual home stations BG Class 3 individual home stations BO Jin Men (Quemoy) area of Taiwan BR Repeater BSOH Huang Yan Dao (Scarborough Reef) BT Special events stations BV Taiwan BV9P Dong Sha Dao (Pratas) BY Club stations BZ Personal calls of club station operators, to be used at club stations only.

There are now 33 old-timers who have been issued permission to operate from their homes with the BA prefix. On July 17, China conducted an examination in 28 cities for the Class 3 individual home station license. About 1400 people took the examination and about 1000 are expected to pass. The main problem for most of these Amateurs will be obtaining equipment. Imported ham gear is too expensive for most of their pocketbooks and ham gear is not made in China.

As of June, 1994, there were 99 club stations (BY) in China. About 200 Amateurs currently hold the BZ prefix call sign enabling them to use personal calls when operating from club stations.

Key Klix credits DL6RDE for the above report.

SIX HAMS ABOARD LOUIS ST. LAURENT ON TRIP TO NORTH POLE Partly from the York Region Splatter

Last month in this Bulletin, we reported on the recent travels of the Canadian Coast Guard icebreaker, Louis St. Laurent, and the American Coast Guard icebreaker, Polar Sea, to the North Pole. Our headline read, "CW only reliable means of communications from the Pole." The source for our short item came from a Canadian Press item that appeared in the Thunder Bay Chronicle-Journal.

The ships reached the Pole on Monday, August 22, 1994 and were there for approximately 24 hours. According to the CP report, "For most of Monday, the only communications with the two ships was by Morse code because electromagnetic interference from the Pole made voice transmission impossible by either radio or satellite telephone."

Now, for the real story. Aboard the Louis St. Laurent were six Canadian Amateur radio operators. They included: Bill Falconer VE1VCB, Phil VE1CGT, Bob VE1BFX, Ken VA3KA, Ivan VE2YGB and Gord VE1VCS. The report in the York Region Splatter comes from information supplied by Bill Falconer. Incidentally, the ship's Amateur radio call was VE0MBJ.

"In the evenings", Bill reports, "we would go on the Amateur bands and work DX. One or two CQ's with the VE0 call and we had a pile up. I did mostly CW, and Phil would come up later and work SSB."

The station ran an ICOM 781 into a homemade dipole. The only band open while in the Arctic was 20 metres, and the window into North America was only a few hours a day. "As the window was around 1200 to 1400 hours our local time, we used it to run phone patches for the crew on CFARS", Bill said. "We had a lot of support from CFARS operators all across the country, but four operators were with us practically the whole way. They included, Ralph Campbell VE1QU, Ed McGillivray VE1EB, Al Oldfield VE3ANO and Vic Williams VE7UZ." Bill says, "there were daily skeds and they didn't miss many days."

"The morning we got to the Pole we started at 0530 our local time and ran 40 patches in a three hour period," Bill explained. "Anyone who wanted to call home could. We were really lucky, because the band had been very poor the previous two days without patch quality. This morning, the band was wide open."

"The time on the Pole seemed to go fairly fast", Bill said. "Phone patches for the crew were the extent of our hamming for the day. We didn't work one DX contact, which was a real shame. After three or four hours doing

"Hydrogen fluoride has no natural source, it is not produced by volcanic eruptions or salt spray," said Dr. Anne Douglass, UARS Deputy Project Scientist. "Furthermore, scientists can calculate how much chlorine in the stratosphere is man-made using the hydrogen fluoride data." This calculation shows that almost all of the chlorine in the stratosphere comes from human-made chlorofluorocarbons.

The UARS measurements of chlorofluorocarbons were made with the Cryogenic Limb Array Etalon Spectrometer, operated by Dr. Aiden Roche of Lockheed Palo Alto Research Laboratory. The hydrogen fluoride measurements were made with the Halogen Occultation Experiment, operated by Dr. James Russell of NASA's Langley Research Center, Hampton, VA.

Each year since 1979, the ozone layer thins dramatically over Antarctica. This sudden change in the ozone was first noticed by researchers in Antarctica and soon confirmed by NASA satellites. The unpredicted Antarctic ozone loss gave scientists a challenging puzzle. Aircraft observations in 1987 showed convincingly that the high concentrations of chlorine monoxide over Antarctica were destroying ozone in the lower stratosphere. Most scientists were convinced that a series of chemical reactions involving chlorine monoxide and ozone led to the formation of the ozone hole.

Two questions, however, remained: why was the change in the ozone layer taking place over Antarctica, and what was the source of the chlorine monoxide? Meteorologists long have known that the Antarctic stratosphere can be one of the coldest places on the planet. Air is so cold that wispy clouds can form even in the super-dry stratospheric air. These clouds, called polar stratospheric clouds, form in the dead of winter. Scientists believe that chemical reactions on the surface of the cloud crystals release chlorine from "reservoir" gases, which do not react with ozone. The chlorine reacts quickly with ozone to form chlorine monoxide. This reaction begins the catalytic cycle in which one chlorine atom can ultimately destroy many ozone molecules, leading to the polar ozone hole.

UARS has measured the winter build up of chlorine monoxide within the south and north polar regions every year since its launch. UARS has found that chlorine monoxide appears suddenly in the stratosphere after the formation of the polar stratospheric clouds. Infrared and microwave sensors on board UARS are able to track stratospheric clouds and the chemical changes they cause.

UARS measurements have confirmed that the chlorine monoxide can build up to extreme levels in the polar regions after polar stratospheric clouds appear. UARS data also have shown that the meteorology of the polar stratosphere prevents the chlorine monoxide from dispersing, thus increasing the ozone loss.

"We are getting daily polar maps of ozone-destroying chemicals," said Douglass. "These measurements are adding tremendously to our knowledge of the stratosphere."

The UARS data set also has provided a clearer picture of the overall chemistry of the stratosphere. UARS instruments have tracked the levels of chlorine "source" gases (CFCs), intermediate products (chlorine monoxide) and reservoir gases (hydrogen fluoride, hydrogen chloride and chlorine nitrate).

Under international treaties controlling the use of ozone-depleting chemicals, the amounts of CFCs in the atmosphere no longer are increasing. However, CFCs survive in the atmosphere for many years before being destroyed by ultraviolet light, and the ozone hole is expected to persist at current levels through this decade. (Their stability was one of their biggest assets when they were developed for industrial use in the 1930s.) Unless other conditions change, scientists expect the ozone hole to weaken and disappear in the 21st century.

UARS was the first satellite launched as part of NASA's Mission to Planet Earth, a comprehensive study of how the Earth's global environment changes, and how human activities contribute to that change. Mission to Planet Earth includes satellites, Space Shuttle instruments, aircraft research and ground teams. Goddard Space Flight Center, Greenbelt, MD, manages UARS for NASA's Office of Mission to Planet Earth, Washington, DC.

Note to Editors: Photographs, satellite imagery and a video, "Beyond the Clouds," describing the UARS mission, are available from NASA's Broadcast and Imaging Branch by faxing your request to 202/358-4333.

phone patches, we had a baseball game with the Polar Sea and won. Some people were skiing. A friend and I had mountain bikes so we went for a ride around the Pole. Others went for a polar swim. There was skating, flying, etc."

Bill continues, "The sun never set the whole time we were there, so if you couldn't sleep and woke up at 3 a.m., you could always go outside and join in whatever was going on."

The joint Canadian/American expedition involved 60 scientists with the aim of understanding the Arctic in the context of global change.

Thanks to David Adams VE3HBF, for his report in the Splatter for this item.

NEXT RAC PACKET BULLETIN

The print version of this bulletin is sent on the 15th of the month to RAC affiliated clubs, all Section Managers, Bulletin Managers and Official Bulletin Stations throughout each RAC Section. In an attempt to keep the packet edition of the bulletin to no more than two parts, it will be transmitted more frequently. The next bulletin should be transmitted on or about January 8, 1995. Watch for it!

73 & Happy New Year de VA3RAC Steve VE3GRS at the keyboard

CLUB DUES

PLEASE SEND YOUR DUES TO:

TOM MERNER RR#4 OWEN SOUND, ON N4K5N6

- A) REGULAR MEMBERSHIP \$25.00
- B) ASSOCIATE MEMBERSHIP \$15.00
- C) FAMILY MEMBERSHIP 1ST MEMBER \$25 PLUS \$15 EACH FOR OTHERS IN SAME HOUSEHOLD

NASA'S UARS CONFIRMS CFCs CAUSED ANTARCTIC OZONE HOLE

Three years of data from NASA's Upper Atmosphere Research Satellite (UARS) have provided conclusive evidence that human-made chlorine in the stratosphere is the cause of the Antarctic ozone hole.

UARS instruments have found chlorofluorocarbons (CFCs)--human-made products used in electronics and refrigeration systems--in the stratosphere. The satellite's global data set also has traced worldwide buildup of stratospheric fluorine gases corresponding to the breakdown of CFCs, according to NASA scientists.

For many years, scientists have warned that the widespread use of chlorofluorocarbons in refrigeration, spray cans and foam packaging was responsible for stratospheric ozone loss. The stratospheric ozone layer protects people, animals and plants from too much ultraviolet sunlight. The Antarctic ozone hole is a dramatic example of stratospheric ozone loss, which most scientists believe is a new phenomenon caused by the release of chlorine from human-made chlorofluorocarbons.

In the past few years, some debate has occurred over the origin of ozone-destroying chlorine. Sea spray and volcanic gases have been put forth as possible sources for chlorine reaching the stratosphere. The UARS data have ended that debate.

"These new results confirm our theories about CFCs," said Dr. Mark Schoeberl, UARS Project Scientist. "The detection of stratospheric fluorine gases, which are not natural, eliminates the possibility that chlorine from volcanic eruptions or some other natural source is responsible for the ozone hole." In addition to CFCs, UARS has detected hydrogen fluoride, a product of the chemical breakdown of CFCs, in the stratosphere.

PHONE PATCH

From: VA3KMS@VE3LJD.#CON.ON.CAN.NA To : GBARC@

The following are user instructions for the phone patch on the GBARC repeater system.

Press the * key to turn on the patch. Listen for the dial tone. Dial the number. Press the # key when you are finished your call to hang up.

The phone patch is located at the home of Rick Slack VE3HIO. The patch is on his own phone line. When Rick is using the line and you try to bring up the patch you will get a beep telling you the line is in use. You will not be able to use the patch until he hangs up. There is a non activity timer set to 30 seconds. This means if the patch hasn't heard you transmit for atleast 30 seconds the patch will hang itself up. There is a warning beep to let you know that it is about to time out. Simply make a quick transmit to reset the timer. The patch can be used from any of the repeaters.

No long distance. Local calls only. Remember if you dial 911 you will get the Owen Sound police. Rick is attempting to get the speed dialer working so phone numbers can be stored like the Ambulance and OPP.

73 de Ken

FCC SLAPS VEs

The FCC has begun proceedings against three suspended volunteer examiners and has downgraded 51 amateur licensees after an extensive fraud investigation in Southern California. According to the WESTLINK REPORT, Extra Class licensees James B. Williams AA6TC of Wilmington, CA, Robert L. Flores N6WPQ and his wife Rose Marie Flores N6WPR of Santa Monica, CA, were ordered to turn in their licenses. The FCC believes all three conspired to commit fraud in at least one instance in violation of the rules and regulations governing participation in the volunteer testing system. The FCC has also acted to punish 5 hams who either refused to take retest or failed their new exams as part of the agency's ongoing investigation. Investigators say at least one test session never actually took place. Indications are that this is just the tip of a very large iceberg, and more disciplinary actions by the FCC may be forthcoming.

October, 13 1994

INTENTIONAL INTERFERENCE BULLETIN

FROM RAQI HEADQUARTERS JEAN PIERRE ROUSSELLE VE2AX GENERAL MANAGER MONTREAL QC
OCTOBER 20, 1994 TO ALL AMATEUR RADIO CLUB PRESIDENTS AND TO ALL RADIO AMATEURS

TO ALL RADIO AMATEUR CLUBS

MONTREAL QC OCTOBER 20, 1994

MR. PRESIDENT

As to the subject matter discussed with Industry Canada at our last meeting on August 30, 1994. Industry Canada has now prepared a circular to submit the necessary information to open an investigation by the Spectrum Management control section in connection with intentional interference.

You will find in this following message the criteria by Industry Canada that was received by us on October 17, 1994

So that Industry Canada can consider your report in regards to interference and or intentional interference, you must submit a complete and accurate written report.

We advise you to follow the instructions to the letter and take great care that all technical parameters are complete. Also Industry Canada requires that all persons indicated in the report be indicated by their family

name followed by given name and not by callsign.

Finally so that we can be able to follow up on the report, please send a copy of your report to your local provincial Association in your respective section and or Radio Amateurs of Canada

We hope that the above information will be of help to resolve those problems that you may come face to face with.

Sincerely yours Jean Pierre Rouselle ve2ax Director General R.A.Q.Inc.

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Intentional Interference problems

The necessary stages and information criteria required by the Spectrum Control Section of Industry Canada to open an investigation into alleged interference and or intentional interference problems.

1-

and that it is absolutely impossible to locate and/or identify the wrong doer.

The complainants must identify with a time schedule along with what type of intentional interference.

The complainants must indicate the times and nature of the manifested interference.

Accurately indicate the frequency(s) affected.

Estimate the region and or district where the interference is most severe.

Forward all this information to the Management Section of Radioelectric of Industry Canada.

Industry Canada will engage all necessary means available to identify the wrong doer, while at the same time maintaining contact with the complainants with updates as to the progress of the investigation.

2-

And where one or more individuals have been located by a group of amateurs;

The complainants must be 100% certain that the interfering signal is being transmitted from the identified site.

By determining the transmitting location by use of antenna triangulation bearings of the transmitted signal. This can be accomplished by using a rotating directional antenna (preferable by the same installation), to establishing the point where the signal is at its maximum on a compass bearing through the transmitting site.

The complainants must compose the document with accuracy, indicating the nature and area of the subject interference and describe accurately all stages of there investigation to locate the source of the intentional interference, do not forget to record the events of the investigation in chronological order of time in recording all technical parameters (frequency, type of modulation, relative level, etc.).

And describe the physical installation of the station antenna and details in connection of the equipment employed so that it can be be verified and considered accurately exact.

And recording with accuracy and authenticated by witnesses any declarations and or statements were sponstainously uttered by the operator (wrong doer) of the suspect station.

And to indicate the names and addresses of all individuals that participated in the investigation to locate and identify the source of the intentional interference.

And to supply a list of all material and equipment and effective measures (model, serial number etc.).

The complainants must forward there complete report to the Management direction Section of Radioelectric of Industry Canada, who will analyse the given information and then decide as to what necessary action to be taken.

JANUARY 1995

GUEST SPEAKER AT NEXT MEETING

From: VE3JJD

We have a guest speaker for the January meeting. He is **Nelson Gain, owner of Plane Fun** and the company has just built the first commercial aircraft in OwenSound. He's going to speak about building the plane and about aviation in general and of course the benefits to the OwenSound area.

I also want to hold a **special packet meeting** for those interested and get their views on where we're headed, and seek the interest of those wishing to form a separate committee of packet operators.

FROM: GENE VE3JJD

More on EMCAB-2

The following is the full text of the Radio Advisory Board of Canada response to Gazette Notice SMEP-005-94 dated June 4, 1995 relating to EMCAB-2.

N.B. The response was submitted to Board members on October 3/94. The ballot for voting members of the RABC expired Oct 20/94, after which time these comments with the members' votes were submitted to Industry Canada.

Since EMCAB-2 was gazetted on June 4/94, it should be obvious whether or not the following comments were considered by I.C.

RABC Response to EMCAB-2, Issue 2 Criteria for Resolution of Immunity Complaints Involving Fundamental Emissions of Radiocommunications Transmitters

Introduction

The Radio Advisory Board of Canada (RABC) appreciates having the opportunity to make its views known to Industry Canada regarding the subject Electromagnetic Compatibility Advisory Bulletin (EMCAB). This topic is of great concern to many sponsor members of RABC.

RABC fully supports Industry Canada in this initiative which will specify the technical criteria upon which the Minister may make determinations regarding immunity-related interference complaints. In the absence for any standards for immunity, clear technical criteria and their consistent application are essential to enable an equitable determination to be made.

GENERAL COMMENTS

Changes from TRC-86

This document has been previously reviewed by the RABC and comments were forwarded to Industry Canada for their consideration. Very few changes were made to EMCAB-2 from the original draft of TRC-86. The RABC is disappointed that most of the comments previously submitted were not considered by Industry Canada for inclusion in this EMCAB.

Interference Criterion

The RABC does not support the position of treating home entertainment audio and baseband video devices as Associated Equipment for the purposes of this EMCAB. These devices contain no integral tuner and should not respond to electromagnetic fields. Proximity to Radio Apparatus (e.g. as part of a home entertainment system) is no justification for relaxing the requirement to the same level as (a) broadcast receiver will which they may or may not be associated.

This document is not intended to apply to Radio Apparatus in or near the passband of the receiver. There are in many instances no mandatory receiver standards for performance regarding sensitivity, selectivity, intermodulation rejection etc. It is not clear what the expected standards of performance are for these devices. RABC

FEEDBACK

N.B. Industry Canada reminds you that in filling an intentional interference report does not necessarily require them to take action by a Judicial proceeding.

In any cases which are judged admissable, an inquiry will be made by these services bases on the information submitted by the persons signing the intentional interference report.

Equally it must be underlined that at the conclusion of analysis of each case, that then the dication will be made as to what method and directive action to taken in regards to radio rules and regulations by Industry Canada.

AR

FREQUENCY GRAB? R:941 229/1552 491@VE7OKV.#SCBC.BC.CAN.NA

My name is Bing Whiteway. I have been in the electronics service field for most of my life. I am a ham and I am getting a bit upset at all the 2way radio services making grabs at our frequencies. Back in the late 50's or early 60 's, the federal government in Canada and the US made it mandatory that all TV sets must have UHF converters built in them. Later on they went so far as to also state these same tuner/convert-ers must be detent just like the VHF tuners. All this was to alleviate the crush for TV on air transmitters that were needed in each city. They wanted more on air TV to be on UHF. Since we all have these UHF tuners and few of us have ever used them. The only UHF in our city is for the french language channel. Actually the Quebec channel as little or none of the programming is from or about BC. What I would like to propose is that all of you spread the word that we would like to see the commercial 2-way radio systems that are so greedily looking at ham bands, to be allowed use of all the unused channels in the VHF TV bands. The federal government should not be allowed to issue new TV stations to come on the VHF portion but must be allocated to UHF. If we can get the 2-way radio people to see all the wasted VHF TV space; 6 megahertz per channel; it would take the pressure off the ham bands. Maybe even give us a reason to use the UHF tuner? Actually most of us are using a cable system and this is an even better reason to get the TV stations off VHF. THERE YOU ARE! CHASE THE VHF TV STATIONS OVER TO UHF AND ALLOW THE 2-WAY RADIO COMPANIES TO PUT THEIR CUSTOMERS ON THE 72 MHZ OF WASTE. VHF TV. 2400 30KHZ SPACED CHANNELS!!

73 de Bing

SHORT BITS

MIKE HESLIN, VE3FOY, HAS AN FT-101 FOR PARTS IF ANYONE NEEDS THEM. HIS PHONE# IS 376-9415

MARION CHAPPLE, VE3DDC, IS ASKING FOR ASSISTANCE IN HELPING HER GET ON THE AIR. HER STATION IS ALL SET UP BUT NEEDS SOME HELP WITH OPERATING PROCEDURÉS ETC. SHE LIVES IN MEAFORD AND HER PHONE # IS 538-4591

GUIDES ON THE AIR GOTTA WILL BE HELD ON FEB 18TH AND 19TH.... IF YOU WOULD LIKE TO SHOW YOUR STATION TO SOME YOUNG LADIES CONTACT BOB VE3LKD AT 371-2257

FOR SALE

VE3TFQ, JIM, 369-6596,

HF-5B BUTTERNUT BUTTERFLY ANTENNA \$200 40' OF DELHI HD TOWER \$300

TELEX HYGAIN 14AVQ/WB-S TRAP VERTICAL COVERS 40-20-15-10 \$50

VE3BZC, ROSS, 371-4326

PRINTER, STANDARD WIDTH, 24 PIN OKIDATA MICROLINE 380 \$125

VE3TSA, TOM, 371-9805

COMPUTER SOFTWARE...OS2 VERSION 2.0 ORIGINAL DISKS AND PACKAGING...\$20

COMPUTER SOFTWARE...QUATTRO PRO VER2.0 SPREADSHEET SOFTWARE C/W BOOKS\$50

recommends that the performance criteria used for frequency assignment be incorporated. The RABC also recommends that the implied selectivity used for allocation purposes also be used to establish the immunity limits for Radio Apparatus to out of band signals.

LIMITS

The rationale for a 5dB difference in the radiated immunity limits for Radio and Non Radio Apparatus is not clear. RABC recognizes the need to use the implied selectivity of Radio Apparatus to derate the limit for signals near the passband, however, the method of performing this is not included. RABC recommends that the same limit be applicable to both classes of equipment except near the passband of receivers.

For frequencies below about 30 MHz, the mechanism most frequently involved is that of conduction into the victim. Any conductor (i.e. power line, signal line and antenna feedline) can intercept a portion of the transmitted signal and conduct it into the victim. This fact is clearly stated in this EMCAB but there are no conducted limits. It has been suggested that this is due to the lack of control over installations and the high degree of dependency of the conducted levels into the victim on installation factors such as length and routing of interconnecting cables. RABC recognizes this dependency and the potential problems this may create. It has also been suggested that no conducted immunity standards were included to reduce Industry Canada's workload in making such determinations. This should not be used as an excuse for not specifying conducted immunity levels. Every other immunity standard in current use or under development includes conducted immunity requirements. Industry Canada is encouraged to consider a harmonized standard which includes conducted immunity limits.

As stated in the background, these devices are used in a variety of environments for a variety of applications, ranging from entertainment to life-sustaining systems. The consequences of any malfunction due to lack of compatibility range from annoyance to the deaths of large numbers of people. (Imagine failure of a commercial airline auto pilot as compared to the presence of "hum bars" on a TV receiver). EMCAB-2 states that "if the level of the transmitted signal exceeds the applicable field strength value on the premises of the affected equipment, it will be deemed that the transmission is the cause of the problem". Issues associated with transmitters (including portable or mobile transmitters) being co-located with potentially radiosensitive apparatus is not considered. In many of these cases more than one party could be involved. Expected field strength levels can range from a few Volt/metre in a typical urban environment, tens of Volts/metre in land vehicles with installed VHF transceiver or cellular telephones to hundreds of Volts/metre in close proximity to high power transmitters in places such as ships' decks. The proposed limits of EMCAB-2 are in effect defacto limits on the maximum ERP of transmitters and could therefore place severe restrictions on the operation of these licensed services. RABC believes that a number of different limits are required. The limits should reflect the value (e.g. economic, social, safety etc.) of the affected services, the consequences of malfunction, loss/reduction of service and the intended operating environment. This approach has been used by the military (e.g. MIL-STD-461D) and is gaining favour in Europe (e.g. EN50082-1, EN50082-2, EN55101, EN55020).

It should be also noted that in the U.S. immunity standards for equipment are emerging from the FCC and other agencies (e.g. FDA). The RABC recognizes that harmonization with the U.S. is essential and the RABC proposes that these standards be incorporated into EMCAB-2; otherwise Canada runs the risk of becoming a "dumping ground" for non-compliant products from the U.S. and elsewhere. Such part 4 follows standards are also in place in the European Community. Harmonization with Europe should be considered where it can be shown to be beneficial to Canada.

The EMC Committee of RABC would be pleased to assist Industry Canada in drafting more appropriate limits.

Measurement Procedure

RABC welcomes the development of a standard procedure laying out the measurement methods and instrumentation to be used. A number of problems exist with performing field strength measurements (particularly in the near field) and these concerns were expressed previously by the RABC.

The EMC Committee of RABC would be pleased to assist Industry Canada in drafting a suitable measurement

procedure.

Cooperation of the Parties

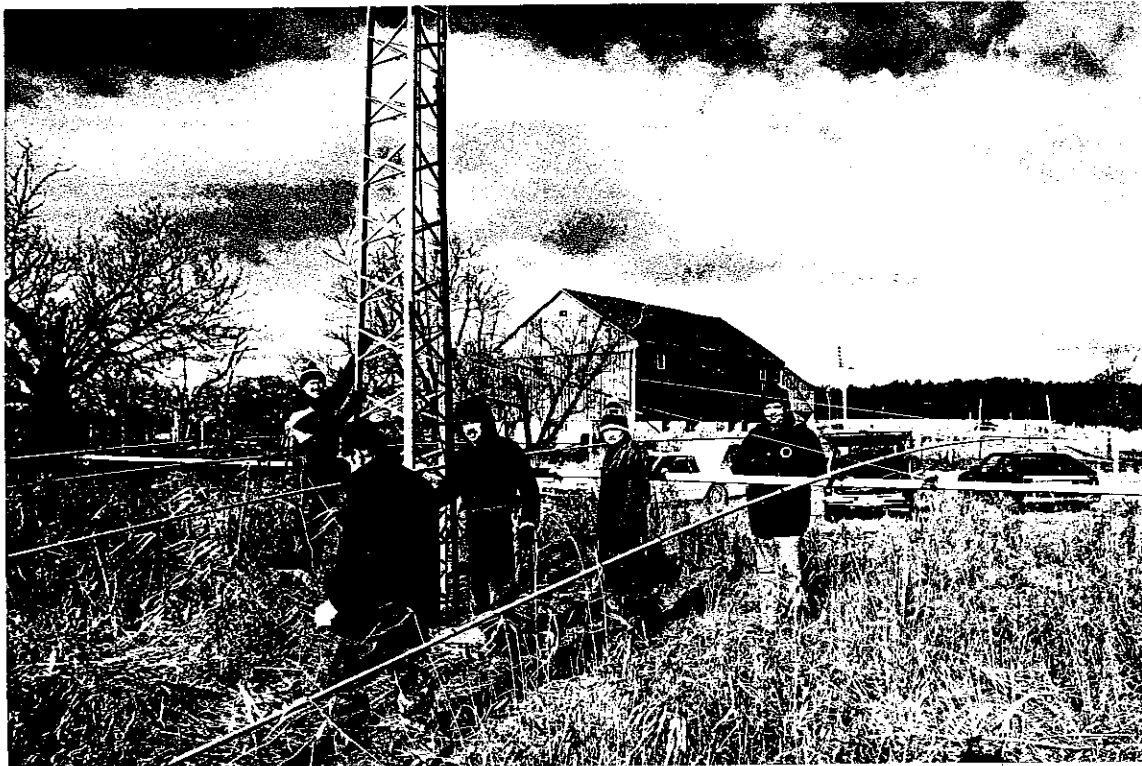
The RABC believes that the cooperation (or the lack thereof) between the parties involved should also play a role in the Minister's determination of cause. Industry Canada currently has the power to force the transmitter owner to comply or have his radio station licence suspended or revoked. In those cases where the victim equipment owner refuses to cooperate, he (she) should be informed that such refusal may result in the Minister determining that the equipment is radio sensitive and that the owner would have no further recourse with the department and that such a finding would be available to any interested party. If handled with tact, RABC believes that this could reduce the probability of legal action of legal actions against licensed transmitter owners.

SPECIFIC COMMENTS Due to the nature of the general comments above, the RABC does not feel it appropriate to provide specific comments.

RECOMMENDATIONS

The RABC recommends that this EMCAB be rewritten in more neutral language and that appropriate immunity levels be developed that consider the value of the service, the potential consequences of failure, the expected operating environment and development of standards in the international community. The EMC Committee of the RABC would be pleased to assist Industry Canada in any way possible.

-prepared by Thomas Howe, P.Eng. CTP II Chairman, RABC EMC Committee October 3, 1994



Shown here are IJD, XOX, UIC, TSA and a friend of BOB's at Ian HXX's antenna raising get together. NEM and TXB were also there.....Photo by TXB