



International Amateur Radio Union Region 1

Europe, Middle East, Africa and Northern Asia

Founded 1950



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SUBJECT	500 kHz Working Group report		
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Introduction

Following an information paper presented by the RSGB the 2002 IARU Region I Conference (San Marino) the IARU Region I Permanent HF Committee (C4) adopted recommendation REC/02/SM/C4.11:

A working group be formed to investigate the possibility of a frequency allocation of approximately 10 kHz between 470 – 490 kHz to investigate propagation and the use of new communication technologies. A Progress report should be circulated to the secretaries of Region 2 and Region 3 for information.

This recommendation was based on the fact that monitoring of the international distress and calling frequency 500kHz ceased in many parts of the world at the end of 1997. It was stressed that this is expected to be a long-term project and that no representations to administrations are expected in the near future.

Whilst the RSGB took the initiative in getting the working group formed Rik Strobbe, ON7YD, agreed to take the role of chairman. The membership of the group is as follows:

Region 1 members

Laurie Mayhead, G3AQC: Well known amongst the 73kHz and 136kHz community for his transatlantic successes on both bands, and now getting his 73kHz transmissions heard in Alaska! (Note 1)

Walter Blanchard, G3JKV: A professional engineer who worked on LF navigation systems, now retired and quietly active on a number of technical fronts concerning LF. (Note 1)

Mike Dennison, G3XDV: Very active on both 73kHz (best DX > 1000km) and 136kHz (93 stations in 21 countries).

John Gould¹, G3WKL, IARU Region 1 LF Coordinator and LF responsibility within RSGB Spectrum Forum. (Note 1)

Gesparik Richard, OM2TW: Well known 136kHz DX operator and active member of the presidium of the Slovak Amateur Radio Association.

Note 1: Members currently active in the Working Group

Rik Strobe, ON7YD: Working Group Chairman. Well-known 136kHz DX operator. Vice President of the UBA. (Note 1)

Region 2 members:

Arnie Coro, CO2KK: Very active in obtaining the release of 136kHz in Cuba and equally keen for a 500kHz allocation. IARU Region II Area C Emergency Coordinator.

Fredrick Raab, W1FR, Professional RF engineer with keen interest in gaining access to 500kHz. Coopted into the group during 2004. (Note 1)

Mike Staines, WA1PTC: Very active LF/VLF enthusiast who is currently experimenting on the US 160-190 KHz "Part 15" band.

Tom Mackie, W2ILA: Professionally involved in the GPS augmentation industry and aware of the issues with the recent US Coast Guard experimentation with two beacons in the maritime band (454 KHz).

Region 3 members:

Glenn, VK4DU: Member of the WIA liaison committee with the Australian Radio "regulator". (Note 1)

In a lot of countries this frequency has been abandoned and that gives radio amateurs an opportunity to seek their administrations for an allocation on that band. An allocation around 500kHz would prove a good balance between the technical difficulties and LF propagation effects at 136kHz and the well known, but challenging, long-distance communication at 1.8MHz. Propagation characteristics are sufficiently different from both bands to make 500kHz an interesting band. There has been dissent voiced by SWLs who monitor NDBs and by some ex-maritime operators who would like to see 500kHz kept un-allocated as a memorial to the maritime service.

500 kHz Working Group activities

In the 500 kHz Working Group following items were discussed:

- WHY should we get an amateur allocation?
 - The experimental character of amateur radio would benefit from an allocation that fills the gap between 136kHz and 1.8MHz.
 - A proposal of a "spectrum national park" within the former emergency communication segment (495-505kHz) would also support our request for an amateur allocation.
- WHERE should it be ?
 - In general somewhere between 435 and 520 kHz
 - The initial recommendation REC/02/SM/C4.11 states the 470 – 490 kHz segment
 - Since the MF emergency segment (495 – 505 kHz) is virtually abandoned in most parts of the world this frequency range, or even up to up to 515 kHz could be interesting too.
 - Frequencies to avoid are:
 - 455 kHz (consumer electronic IF)
 - 490 kHz (NAVTEX local)
 - 518 kHz (NAVTEX international)
 - How many kHz should we aim for:
 - A large allocation (5 – 10 kHz) would give plenty of opportunities but is most likely more difficult to achieve
 - A small allocation (2 – 5 kHz) will limit us somehow (available modes, number of simultaneous QSO's) but might be easier to "fit in" somewhere

- HOW can we get it ?
 - Although a few amateur allocations were established at national level (eg. 72kHz and 70MHz in the UK) most amateur allocations are given on international level, either CEPT (Europe) or ITU. At these levels we need sufficient national support (of CEPT / ITU member countries) but at the same time a support (or at least not to many objections) from the current users of the 500kHz segment is desirable.
 - In a first stage we might have (informal) contacts with national authorities and the organisations that represent the actual users (eg. IMO) to find out what possibilities we have. Informal contact could go via radio amateurs that have appropriate contacts. But even for informal contacts we should be well documented, having strong arguments for an amateur allocation (WHY) and have good knowledge of the actual usage of the 500kHz segment (WHERE).
 - In many countries it is possible to obtain experimental licences. Although this is not really amateur radio this experimental licences might be easier to obtain than a real amateur licence for 500 kHz. These could be used for initial propagation experiments and to prove that an eventual amateur radio segment will cause no harmful interference.
- WHEN can we get it? (Timing)
 - In 2002 it was stated that this is expected to be a long-term project and that no representations to administrations are expected in the near future. As a result the subject of timing has been discussed only very briefly.
 - Currently (December 2004) UBA is contacting the BIPT (Belgian Institute for Post and Telecom) in order to discuss the possibility of an experimental licence
 - Currently (December 2004) RSGB is awaiting a response from the UK regulator, Ofcom, following a formal request¹ in September 2004, for access to either 501 – 504kHz or 508 – 515kHz under a limited variation of the Amateur Full Licence.
 - Walter Straubach, DL2LF, who is responsible for LF matters in DARC, has recently gained a “test and research” licence for 200Hz bandwidth at 440kHz, 9W ERP.

Further the 500 kHz Working Group received a extensive and detailed document discussing a 500 kHz amateur radio allocation from Dr Frederick H. Raab, W1FR. This document is attached, with the permission of W1FR.

Recommendations

That the IARU Region I Permanent HF Committee (C4) take note of the progress made by the working group and of the individual approaches made by some member societies to their regulator for amateur access around 500kHz.

The Working Group would request continued support for its activities, which are now to sharing current issues concerning amateur access at 500kHz and coordination of individual approaches to the regulator.

¹ See <http://www.rsgb-spectrumforum.org.uk/mf.htm>