



ARRL Spectrum Defense Matters

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A Note from the Chief Executive Officer

It's been a busy three months since the previous issue of ARRL Spectrum Defense Matters! There were two significant events in February, one of them expected and the other not.

The unexpected event was the introduction by Rep. Peter King of New York of HR 607, a bill that seeks to provide additional spectrum above 700 MHz for an interoperable broadband network for First Responders. This is a laudable goal, and one sought by other legislation in both the 111th and 112th Congresses. Unfortunately, Rep. King's bill would require a "swap" of auctionable spectrum including the 420-440 MHz band that is so important to our ability as radio amateurs to provide public service communications and to otherwise serve the public interest. The ARRL is mounting a strenuous opposition to HR 607 in its current form, and we will not rest until this provision of the bill is removed from consideration.

A key milestone on the road to the 2012 ITU World Radiocommunication Conference (WRC-12) was reached in February when a two-week Conference Preparatory Meeting (CPM) in Geneva completed work on a 688-page report on "technical, operational and regulatory/procedural matters" to be considered by administrations as they prepare proposals for the conference and determine their positions. I was privileged to serve as a representative of the International Amateur Radio Union (IARU) during the first week of the CPM and was pleased to play a small role at what turned out to be a successful meeting from an Amateur Radio perspective, but the heavy lifting – as has been the case throughout the WRC-12 preparatory process – was done by a team of other ARRL staff and IARU volunteers. You'll find the details of their work in this issue.

The last time I visited Geneva was in November 2007 during WRC-07. At that time a US dollar was the equivalent of 1.16 Swiss francs. For this trip a Swiss franc cost a little over \$1.04. That's an increase in cost of more than 20%, not including inflation. In Geneva the basic Big Mac meal that in 2007 cost \$8.62 now goes for \$12 – a 39% increase.

The point is simply this: Whether done by staff or volunteers, representing the interests of the Amateur Radio Service – your interests – is an increasingly expensive business. IARU volunteers make an incalculable contribution of their time and expertise, but we need your voluntary contribution so they can travel to meetings and be housed and fed.

For the past decade we have kept the basic ARRL dues rate the same while continuing to do everything necessary to defend Amateur Radio at home and abroad. This has been possible only because members like you have been willing to dig a little deeper and to supplement their dues with support for the Spectrum Defense Fund. If you have the means to do so, please do.

David Sumner, K1ZZ
Chief Executive Officer



Eternal Vigilance is the Price of Spectrum

As ARRL President Kay Craigie, N3KN, recently paraphrased in a recent ARRL Legislative Update Newsletter, "Eternal vigilance is the price of spectrum." We have learned that all too well over the years. Sometimes, the threats are minimal; sometimes their impact can be devastating if not addressed. Regardless of the degree of severity, any threat to our Amateur Radio spectrum must be a top priority of the ARRL.

On February 10, 2011, Representative Peter King (R-NY) introduced the "Broadband for First Responders Act of 2011," into the U.S. House of Representatives. It has been designated as H.R. 607 and referred to the House Energy and Commerce Committee, which handles telecommunications legislation. The bill provides that the so-called "D-Block" – a set of frequencies that became available when the FCC ended analog television broadcasts – be designated for use by Public Safety agencies. The D-Block would allow the development of an interoperable broadband network for use by groups such as first responders, emergency management agencies, police, fire and rescue services. The ARRL supports the work of those groups and does not object to allocating the D-Block for that purpose.

"Frequency Swap"

Our concern with H.R. 607 is that the D-Block had been scheduled to be auctioned for use by commercial interests and was expected to raise nearly three billion dollars in revenue. To offset that loss of revenue, H.R. 607 proposed that spectrum previously allocated to Public Safety communications be reclaimed in what could be called a "frequency swap", with the reclaimed frequencies being auctioned instead of the D-Block. One of the frequency segments that the bill would require to be reclaimed and auctioned is what has been termed as the "paired" frequency segments of 420-440 MHz and 450-470 MHz.

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There in lies the problem and threat to amateur radio. H.R. 607 would reclaim the majority of the Amateur Radio secondary allocation on the 70-cm band and require it be auctioned to replace the income that was anticipated from the sale of the D-Block.

As you know, the Amateur 70-cm band has become one of the centerpieces of Amateur Radio's emergency communications

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Progress Made Toward Potential MF Allocation in Bogota and Geneva

ARRL and IARU representatives continue to make the case for a secondary Amateur Radio allocation of about 15 kHz within the 415-526.5 kHz range, and have garnered significant support at recent regional and international meetings. Participants in World Radiocommunication Conference 2012 (WRC-12) will consider such an allocation under Agenda Item 1.23 next year.

MF Allocation Gains CITEL Nod in December

A potential allocation to the Amateur Radio Service at 461-469 and 471-478 kHz gained inter-American support in meetings held earlier this month in Bogota, Colombia, with the Permanent Consultative Committee II (PCC.II) of the Inter-American Telecommunication Commission (CITEL) adopting the United States position for the MF allocation.

Canada—which had previously supported a secondary allocation at 472-487 kHz—withdrawn that support and aligned itself with the United States at the meeting in Bogota. Over the course of the meeting, Argentina, Brazil, Colombia, the Dominican Republic, Uruguay and Venezuela signed on to have CITEL present the agenda item at WRC-12 as an Inter-American Proposal (IAP). The support of six countries is required for a proposal to gain IAP status. The US agreed to support the allocation in 2010, despite opposition by maritime interests.

As a member of the US delegation, ARRL Technical Relations Specialist Jon Siverling, WB3ERA, attended the meeting, serving as CITEL's Coordinator for the agenda item. IARU Region 2 President Reinaldo Leandro, YV5AM, was also in attendance on behalf of the IARU. The adoption of an affirmative IAP on Agenda Item 1.23 represented an important milestone in the ARRL's and the IARU's international advocacy efforts.

CITEL is one of six regional telecommunications organizations whose formal positions carry significant weight during deliberations at a WRC. Acknowledging the difficulty inherent in gaining any new allocation, ARRL Chief Executive Officer David Sumner, K1ZZ, noted the importance of formal regional support. "While we still face an uphill battle internationally, gaining the support of one of the major regional telecommunications organizations this early in the process improves our chances for achieving an allocation at WRC-12," Sumner said in December.

Conference Preparatory Meeting Narrows Suggested Methods

February 14-25 brought the Conference Preparatory Meeting (CPM) for WRC-12. During the first week of the CPM, delegates completed the drafting of nine pages of analysis of the technical and regulatory issues related to Agenda Item 1.23. Two possible methods of satisfying the agenda item, along with the possibility of there being no change (and therefore no allocation), were set out in the CPM Report, along with the advantages and disadvantages of each.

What the Report calls Method A envisions an allocation of up to 15 kHz between 472 and 487 kHz. Method B calls for allocations totaling 15 kHz at 461-469 kHz and 471-478 kHz. Another Method that had been developed at earlier meetings of Working Party 5A of the ITU Radiocommunication Sector, for an allocation of about 15 kHz between 493 and 510 kHz, was dropped from the draft CPM Report because no support for this approach had developed among the administrations participating in the preparatory process. A new digital system centered on 500 kHz is being developed by the maritime radio community, and an amateur allocation, even on a secondary, not-to-interfere basis, was found to be incompatible with the planned system.

ARRL Chief Executive Officer David Sumner, K1ZZ, who attended the first half of the CPM on behalf of the IARU, praised the result. "The hard work of a team of radio amateurs led by the International Amateur Radio Union (IARU)—and with considerable help from friendly administrations—has gotten us to this point," Sumner said. "While more support will need to be developed among other administrations if we are to achieve an allocation at WRC-12, our prospects are better now than they were [at the start of the meeting]." He gave particular credit to Ken Pulfer, VE3PU, who has coordinated the IARU effort and gained valuable support from the Canadian administration. "Ken and the IARU team have been working on this issue for three years," Sumner said.

ARRL Chief Technology Officer Brennan Price, N4QX attended the CPM as a member of the United States delegation. CITEL and the United States support Method B, which conforms to the IAP adopted in Bogota. At this stage, Method A has support from several administrations in Europe, Africa, Asia and Oceania.

WRC-12 will be held in Geneva from January 23 to February 17, 2012.

ARRL Involvement in MF Effort Goes Back Seven Years

There have been many recent reports on the considerable activity of the ARRL to secure a new amateur medium-frequency (MF) allocation through the WRC process. What is not so well known is that the ARRL has been involved in this effort since 2004!

ARRL involvement in the quest for a new amateur band below the AM broadcast band began in 2004 following a discussion between the author and ARRL Chief Executive Officer David Sumner K1ZZ. This discussion led to organizing a group of operators and applying for an experimental license in 2005. After a good deal of persistence by then Chief Technology Officer Paul Rinaldo, W4RI, and then Technical Relations Specialist Walt Ireland WB7CSL, experimental license WD2XSH was issued on September 13, 2006.

The initial WD2XSH license allowed a group of 23 experimenters to operate from 505 to 510 kHz with a maximum of 20 W ERP. This was the upper guard band to the maritime distress/calling band from 495 to 505 kHz. Initially, only CW and slow CW (QRSS) were permitted.

No Commercially Available Equipment for Transmitting

A few stations were on the air almost immediately and started making contacts. Many others followed over the next year. Getting on the air was a challenge for everyone, as there was no commercially available equipment for transmitting or tuning the antenna. Stations were soon logging several thousand operating hours and proving that amateurs can use the band without causing interference to others.

In 2007, some administrations at WRC-07, responding to suggestions from some radio amateurs, successfully placed the consideration of a new MF amateur band onto the WRC-11 agenda. The Agenda Item is what enables our representatives to discuss the potential new allocation at what has since become WRC-12. To support the international deliberations, the WD2XSH license was modified in 2007 to permit narrow-band digital modes including PSK-31, FSK-31, and MSK-31.

In 2008, the ARRL applied for an expansion of the license, roughly doubling the number of stations and adding coverage in western US, Alaska, and

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Hawaii. Also included was access to the maritime distress and calling band from 495 to 505 kHz. ARRL General Counsel Chris Imlay W3KD persisted, and the expanded license was approved in July 2009. Many of these stations are now on the air.

Amateur experimenters in seventeen other countries have obtained permission to operate. Our results and documents were often cited to support these applications. The mechanisms include experimental licenses, amateurs with special permits, and in some cases access by any amateur with a top-grade license. The frequency bands differ and currently range from 493 to 515 kHz. Three other US experimental licensees are also operating within the range under consideration at WRC-12.

A new amateur band below the AM broadcast band would offer amateurs a unique opportunity for reliable regional emergency communications. Ground-wave signals are not subject to interruption by ionospheric disturbances. Tests conducted by WD2XSH operators have demonstrated that distances of 150 to 200 miles can be covered reliably, day or night. We envision that one or more transportable stations can be deployed to provide a communication mode using narrow-band digital modulation.

In the winter months, several stations can be heard almost every night at most locations in the continental USA. The operating modes include CW, slow CW (QRSS), WSPR, PSK-31, and MSK-31. Stations may either engage in QSOs or transmit as "beacons", hoping for reports from listeners. The web site www.500kc.com provides a wealth of information on the experiment and place to file reception reports and to ask for QSLs. QSOs over distances of 500 to 1000 miles are common. However, QSOs have been made at distances of 3,100 miles and reception has been reported at 6,700 miles.

WD2XSH has currently logged over 70,000 hours of operation with no complaints of harmful interference. We have demonstrated that we can share the spectrum with nondirectional beacons (NDBs) through geographic and frequency restrictions. These are important statistics for use at WRC-12 and later in a petition to the FCC for a new US amateur band. In January, we filed a request to add 461 - 478 kHz to match the current FCC and CITEL proposals for a new amateur band. The FCC issued an amended license for WD2XSH on February 24 to add 461-478 kHz.

By Fritz Raab, W1FR
Coordinator, ARRL WD2XSH
Experimental License

Eternal vigilance... Continued from Page 1

networks. However, the loss of the 420-440 MHz frequencies means much more to Amateurs. Loss of those frequencies means Amateur Radio satellites – operating between 435 and 438 MHz – would no longer be usable since they cannot be re-tuned. Weak signal work – primarily between 432 and 433 MHz - has been invaluable to building our knowledge of UHF propagation. A threat to any of our spectrum – whether it is spectrum we personally use or not – must be vigorously opposed by the entire Amateur Radio community.

The inclusion of 420-440 MHz as "Public Safety" frequencies that could be recovered and used as replacement spectrum in a commercial auction is ill-conceived and flawed. There is no Public Safety allocation on those frequencies. There is a special exception in three narrow situations around the cities of Detroit, Cleveland and Buffalo, but those are exceptions, not formal allocations. These frequencies are not Public Safety allocations and never should have been included in the proposed "frequency swap."

ARRL Grassroots Program

The ARRL Washington team – comprised of ARRL leadership, headquarters staff and our legislative relations firm – are actively working this challenging problem. They have already begun visits to key staff on Capitol Hill. They have implemented the ARRL Grassroots program to provide ARRL members with the key facts about H.R. 607 and provided tools for the membership to use to contact their Representatives and actively oppose H.R. 607.

ARRL leadership is taking an active role in this fight. On behalf of the organization, ARRL President Craigie has written Congressman King outlining our opposition to H.R. 607 in its current form. She has also written the current co-sponsors outlining our concerns. The National Public Safety Telecommunications Council (NPSTC) – of which the ARRL is a member – has contacted the ARRL and is supporting our position.

ARRL is a Strong Supporter of Public Safety Agencies

It is important to reaffirm that the ARRL is a strong supporter of Public Safety agencies and fully supports their need to have the D-Block allocated for their use. However, we cannot do so at the expense of Amateur Radio spectrum. This is why we oppose H.R. 607 in its current form.

The ARRL members are responding. Within the two weeks of the ARRL's request for letters of opposition, almost 2,000 had been received by our legislative relations firm. This is a tremendous first step, but it cannot stop there. We need every ARRL member to contact his or her member of the U.S. House of Representatives and oppose H.R. 607 in its current form. As long as these frequencies are included, the ARRL will continue fight H.R. 607.

There is a special exception in three narrow situations around the cities of Detroit, Cleveland and Buffalo, but those are exceptions, not formal allocations.



NEW!

**The 2011
Spectrum
Defense Mug
and Pin**



We will say thank you for your \$50 contribution with a 2011 pin, and for your \$100 contribution with both the mug and pin.

To receive your pin or mug, contribute via the ARRL Web site using the ARRL Donation form at www.arrl.org/arrl-donation-form, or make a one-time contribution by mailing your check payable to the **ARRL Spectrum Defense Fund**, 225 Main Street, Newington, CT 06111.

BPL Battle Continues

April 25 will mark the third anniversary of the ARRL's Court of Appeals victory over the FCC and its flawed regulations for broadband over power lines (BPL) systems. The FCC still has not completed the steps the Court required in order to correct its prejudicial handling of the original rule making proceeding.

But the battle goes on. The ARRL continues to argue for mandatory notching of the amateur bands. We have filed complaints with the FCC of interference and rules violations by one of the few remaining BPL system operators. In February we filed a complaint with the FCC Laboratory, showing that this company's BPL modems are substantially overpowered and improperly certified.

The marketplace has rejected BPL as a means of delivering broadband service to consumers, but the technology has other applications such as smart grid – so we can't allow interference protection for licensed services to remain inadequate. The ARRL led the fight against BPL interference from the very beginning, and will continue to do so – we're not going away!

A Note from the Chief Technology Officer

Thank you for reading the first edition of Spectrum Defense Matters for 2011. We've done our best to inform you how your donations to the Spectrum Defense Fund make a difference on the international stage.

The content of this issue focuses heavily on our efforts toward a new MF allocation to Amateur Radio at WRC-12. While this potential—and it is only potential, no matter how well preparations have gone—is exciting, the MF effort is just the top of our agenda at WRC-12 and beyond.

I'm pleased to report that from a defensive perspective, the Conference Preparatory Meeting for WRC-12 was a very good one. Between proposals for oceanographic radars at HF, space object detection radars at VHF, and regulations for software defined radio systems, WRC-12, like all WRCs, poses the potential for actions against the interests of Amateur Radio. Fortunately, and not without significant efforts by our ARRL and IARU representatives, the CPM report for these Agenda Items is very good from our perspective. The frequency bands proposed for the two radar systems do not conflict with Amateur Radio's worldwide allocations, and the only method proposed for software defined radio calls for no change, an outcome which would permit radio amateurs' continued fruitful and free pursuit to advance the state of the radio art in this field.

WRCs are fraught with uncertainty. Not only does substantial work remain on our MF efforts and the defensive items mentioned above, the agenda for the WRC that will follow WRC-12 is taking shape. It is possible, perhaps even probable, that the WRC held in the 2015-2017 timeframe will include an Agenda Item that will bear striking resemblance to the United States National Broadband Plan effort. Such an agenda item will present challenges to all users of the radio spectrum, including Amateur Radio. Efforts to make sure the scope of such an item is reasonable have already begun.

As you have seen in this issue, we've accomplished a lot. But there's more to be done, and the list of things to do won't get shorter. Your support of the Spectrum Defense Fund makes it possible for ARRL to achieve what we do. And by your support, I mean our support, because I'm proud to have made my donation for 2011. If you've not yet joined me, please consider doing so. Thank you!



Brennan Price, N4QX
Chief Technology Officer

A Note from the Chief Development Officer



The year is still young and yet 2011 has already presented ARRL with challenges to your Amateur Radio spectrum. We began the year with a hefty task of raising \$350,000 to support ARRL's efforts to defend Amateur Radio frequencies and your operating privileges and I hope you will be as generous as you can.

As you read through this first issue of Spectrum Defense Matters for 2011 the most recent issues will be clear and I hope you will be inspired to make the most generous contribution you can manage. Or if it's easier you may elect to make your gift in monthly installments—an easy way to support this important ARRL fund.

Members tell us that ARRL's representation of their interests is one of the most important benefits of being an ARRL member. And we are proud to be your voice in official Washington and around the world. But we need you to support ARRL financially. We will say thank you with a 2011 Defense pin or 2011 Defense mug and send you a certificate of thanks.

There are several manageable ways to make your gift....

- Consider contributing \$10, \$20, \$50 or \$100 monthly. Just provide us with your credit card information and we will do the rest!
- Contribute via the ARRL website using the ARRL Donation form at www.arrl.org/arrl-donation-form.
- Arrange with your bank to send an automatic monthly check of \$10, \$20, \$50 or \$100 or more payable to ARRL Spectrum Defense Fund at 225 Main Street, Newington CT 06111.
- Make a one-time contribution by mailing your check, payable to the ARRL Spectrum Defense Fund, 225 Main Street, Newington, CT 06111.
- Make a gift of securities. Contact the ARRL Development Office for details on how to transfer stock to ARRL for the Spectrum Defense Fund.
- Consider including the ARRL Spectrum Defense Fund in your estate plans, and become a member of the ARRL Legacy Circle.

For questions or more information, contact

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