



THE OHM TOWN NEWS

Voice of the Bridgerland Amateur Radio Club

>>>>>> <http://www.barconline.org> <<<<<<<

April 2010

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PRESIDENT'S MESSAGE

The February message was about being prepared with a 72 hour emergency kit for your household. As amateur radio operators we also need to think about being prepared to operate our radios when there is an emergency.

For the majority of us, we utilize a power supply plugged into a 110 volt AC outlet to provide the 12 volts DC power to the radios. But what happens if the power goes out. Depending on the damage to the power grid, it might be less than a day, a day or so, or a week before power is restored. To power your radios, you can use a 12 volt battery. Here is some information on two types of lead acid batteries, flooded and sealed.

Flooded batteries include starting, marine and deep-cycle batteries. These type batteries vent gases during charging and distilled water must be added occasionally to bring the electrolyte back to its required level. These batteries are not to be charged in confined areas because escaping hydrogen gas is explosive in air at only 4% by volume.

Starting batteries have many thin lead plates of sponge lead for maximum surface area. This very large surface area allows the battery to discharge a lot of energy very quickly for a short amount of time. They do not tolerate being discharged deeply, as the thin lead plates needed for starter currents degrade quickly under deep discharge and re-charging cycles.

Marine batteries are usually a "hybrid", and fall between the starting and deep-cycle batteries. It has fewer plates but the sponge material is thicker on the plates. The marine battery is a dual purpose used for starting and deep cycle applications. However, the plates which are designed for starting purposes inherently compromise deep-cycle performance.

Deep-Cycle batteries have the thickest lead plates that make them tolerate deep discharges better. Some Deep-cycle batteries are designed for up to a 50% Depth Of Discharge (DOD) cycle which is about 12.06 volts (about 2.01 volts per cell). A 100% discharge is 10.5 volts (1.75 volts per cell) and 100% charged is 12.8 volts (2.13 volts per cell). Most amateur radio equipment does not operate properly below 11.5 volts. The major difference between a true deep cycle battery and the others is that the plates are solid lead plates, not sponge. They cannot dispense charge as quickly as a starter battery but they are better at providing long periods of slow discharge.

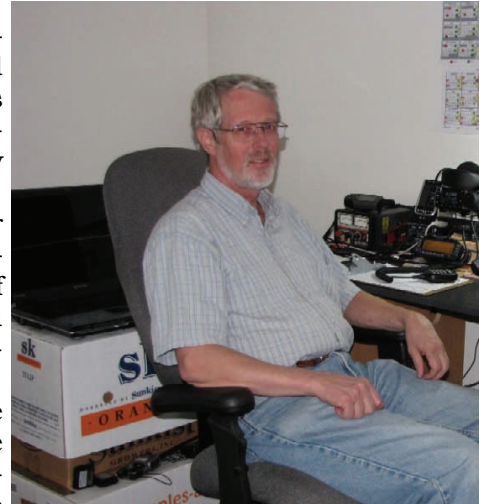
A Sealed Lead Acid (SLA) battery is a deep cycle battery. Typical DOD is 25% for this type of battery which would be about 12.36 volts (2.06 volts per cell). In a SLA battery, the electrolyte is gelled by the addition of Silica Gel. The SLA is also known under the brand name of Gel cell. Safety valves allow venting of gases to escape if internal pressure exceeds a certain threshold. The advantage of these batteries is that it is impossible to spill electrolyte even if they are broken. During charging, a lead-acid generates oxygen gas at the positive electrode and hydrogen gas at the negative electrode. The SLA batteries are designed so that the oxygen and hydrogen gas generated during charging is captured and recombined back to water in the battery. This is called recombination cycle and works well as long as the charge rate is not too high. However, there are several disadvantages. One is that they must be charged at a slower rate (Capacity/5 maximum) to prevent excess gas from damaging the cells. Lower charge rates under the C /5 maximum are also acceptable and in most cases are preferred, but it will take longer to recharge the battery. They cannot be fast charged on a conventional automotive charger or they may be permanently damaged. Too high of a rate of charge may result in case rupture, thermal runaway, or internal mechanical damage.

Also freshness of a new battery is very important. The longer a battery sits and is not recharged the sulfur molecules in the electrolyte (battery acid) become so deeply discharged that they begin to coat the battery's lead plates. This will decrease the battery capability to deliver power and can eventually ruin the battery.

Well, that is a short explanation of flooded and sealed batteries.

73

Cordell
KE7IK

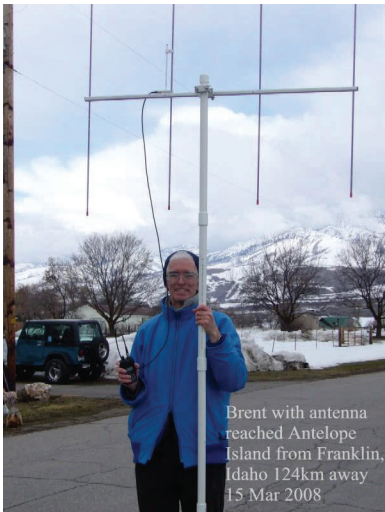


HAM PROFILE

by Jared B. Luther

Radio electronics and antennas captured Brent Carruth's, AD7VF, interest at a very young age. At age ten, he enjoyed building several crystal set radios. He spent hours looking at the vast collection of radio electronic components in O'Laughlin's Radio Supply store and at Standard Supply Company in Salt Lake City in the 1960s. Wanting to understand the function of each part, he found books that explained the basis of operation of some of them.

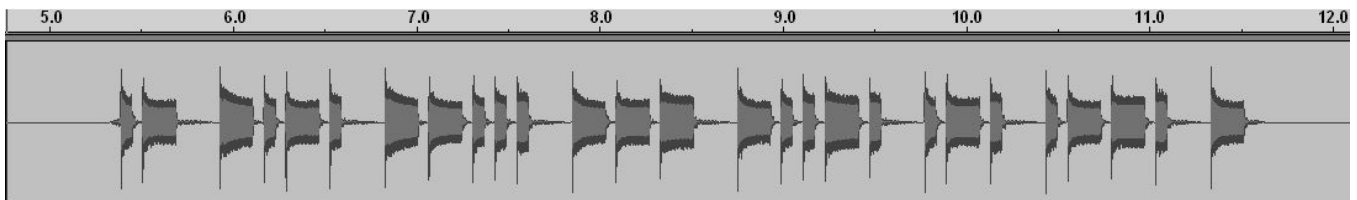
In those years, Brent remembers studying the ARRL manuals for preparing for the FCC novice, technician and general class license manuals and the ARRL Handbook which showed pictures of various home-made receivers and transmitters. That one could actually make an oscillator and modulate a carrier and then emit a radio frequency signal was something he really wanted to learn how to do himself. This intense interest has been a life-long guiding influence in his study of radio electronics. He remembers how thrilling it was to understand Edwin Armstrong's superheterodyne receiver principle used in nearly all radio receivers and to learn about Maxwell's concept of displacement current and how this led to his theory of electromagnetic waves. Antennas have always been fascinating to him, too. He always spots out antennas wherever they may be found and has probably spied every possible one within his view.



With the privilege that comes with an amateur radio operator license to experiment with antennas, Brent is able to pursue another interest in trying to quantify the effects of diffraction and polarization as radiowaves propagate over mountain paths. Several readers of this newsletter have patiently obliged him in some of his experiments with diffraction. One such was a 2008 Labor Day weekend hike to the saddle of Mount Timpanogos with a portable four-element Yagi made by Arrow Antenna and a 7W Icom IC-V85 handheld. From that vantage point he successfully keyed the Sedgwick Peak repeater about 240km away and talked with Don, NF7R, traveling near Wendover and Reed, KD7HIA, in Vernal who immediately called Erik, AD7OV, well-known in Cache Valley and recently moved to Vernal, to tell him about this most unusual QSO. Even surprising to him, Brent found that with his IC-V85 and a 300 ohm twin-lead half-wave J-pole antenna he could reach the 146.72 Mount Logan repeater from American Fork, Utah, a distance of 148km passing over Mount Olympus and several other 9000 plus foot mountain peaks. Because of their pencil sharp beamwidth and circular polarization Brent is highly interested in helical antennas for VHF to determine the possibility of valley-to-valley communication over mountains.

Learning about different kinds of antennas used in amateur radio has benefited one of Brent's longtime dreams which is to design an instrument that could be quickly deployed by search and rescue teams to locate survivors of avalanches, mudslides, earthquakes or other such disasters. This instrument would use multiple antennas in an array that measure the phase and amplitude of electromagnetic waves of multiple wavelengths scattered from a debris field to quickly detect and locate survivors. This requires broadband antennas and with the ability to experiment with different kinds of antennas on the amateur radio frequency bands his dream is coming closer to reality.

Brent yearned to become a licensed amateur radio operator early on, passing the Morse code test, however, seemed beyond reach. Readers who can sympathize with this may find the included image he made of a sound recording waveform of the 146.72 AC7O repeater Morse Code ID interesting (it spells AC7O/RPT). Though he had many ham radio friends over the years and maintained continued interest in ham radio somehow he missed the first FCC change in the Morse code test for the Technician class license. It was March 2007 when a friend, Ray Robison, KD7GNV, told Brent that the FCC had dropped the Morse code test for all classes of license that he was finally able to obtain his license. His brother, Blair, K7BKC, earned his General class license in July 2007 and Brent earned his Technician class license at the Bridgerland Amateur Radio Club VE exam session in December 2007, General class at the next VE exam in March 2008 and Amateur Extra class at the next exam in June 2008. Brent's daughter Celeste, KB1QKY, earned her Technician class license in April 2008.



Brent has been very happy to meet so many good friends among the amateur radio community in Cache Valley. It is a great community to be a part of. He enjoys volunteering for public service events and is an avid proponent of amateur radio with all whom he meets and is happy when he learns of someone who is earning or upgrading their license which is one reason why he likes to serve as a volunteer examiner. He also looks for yet other ways to be of service to the amateur radio community in the valley.

On the home front, Brent and LaJean will celebrate their twenty-fifth wedding anniversary this year. They recently purchased their first home and venturing into HF is a possibility, now that he can put up his own outdoor antennas. Visitors to their home immediately notice the juxtaposition of two centuries. LaJean's weaving loom in the living room and Brent's Yagi antenna in the kitchen. In addition to various antennas and tools to make them, Brent's present radio equipment consists of an IC-V85, a Yaesu VX-1R 100mW VHF/UHF miniaturized handheld that he keeps in his pocket, and an Icom IC-2200 65W VHF mobile in his vehicle with an amateur radio license plate. Brent and LaJean are also the proud parents of, in the style of language of Boyd Humpherys, W7MOY, three harmonics: Amy, Nathan and Celeste. Amy is a graduate student in organ performance and musicology and will soon be married, Nathan is a graduate student in theoretical physics studying string theory and Celeste is a dual major in violin performance and physics.

The BARC Club Meeting for April

Have you operated the high frequencies? We mean the really high frequencies, like up above 1000 MHz. If not, the BARC meeting on April 10th may be a chance to find out what it's like. We will have a presentation on microwave by a local microwave group from Salt Lake. (More about the group at <http://groups.yahoo.com/group/utahmicrowave/>) Learn about mountaintop expeditions to set new distance records, making an antenna with 40 dB of gain or more, and communicating on a light beam. What bands are available? What does it cost to get started? How hard is it to build your own equipment? What does it take to compete in the Microwave contests? The groups will be answering these types of questions and showing of the commercial and home built gear.

UPCOMING ACTIVITIES

BARC Club Meeting - 10 April, 10:00 AM

RACES VHF Net - 15 April, 8:00 PM

BARC Club Meeting - 8 May, 10:00 AM

RACES HF Net - 15 May, 8:00 AM 3920 KHz

Cache Valley Biathlon - May 22, 9:00 AM

Mountain Man Rendezvous - 25-26 May

Rocky Mountain Division Convention - 28-30 May

At the newly renovated 302-room Platte River Resort in Casper, Wyoming.

Little Red Riding Hood - 5 June

Tour De Cure (Box Elder Co.) - 12 June

Rocket Recovery - 16-18 June, in Green River, Utah

RACES VHF Net - 17 June, 8:00 PM

Wasatch Back Relay - 18 June

Field Day/Club Meeting - 26-27 June

MS 150 - 26-27 June

BARC Club Meetings are normally on the 2nd Saturday of the month at 10:00 A.M. on the 3rd floor of the Cache County Sheriffs Complex on 200 North and 1225 West, Logan, Utah.

ARES Meetings are usually held on the Third Wednesday of each month at 7 P.M. at the Cache County Sheriffs Complex. Contact Tyler Griffiths for more information.

I would encourage all Amateur Radio Operators to read the information contained on this website.

<http://www.fcc.gov/cgb/consumerfacts/emergencies.html>

Although it does not contain information regarding Amateur Radio, it is general information we should know and can advise the average person on. It is basically what to expect with telephone, 911, broadcast and other services in an emergency.

Kevin Reeve

Smithfield Fire and Cache County EMS's Division of Emergency Management is establishing an emergency communications team to be activated in the event of a city/fire zone 4 emergency when normal forms of communication are down or reduced. In case of a catastrophic natural disaster, such as an earthquake, it is likely that cell phones, land lines and internet connections will be inoperable.

The emergency communications program will be established in the following phases:

- Phase One — Establish volunteers to join the team
- Phase Two — Identify equipment needs, based on team members' radio knowledge and experience, and purchase equipment
- Phase Three — Develop emergency response job functions and checklists; set up team training by experienced emergency ham operators
- Phase Four — Establish call-out protocol

The emergency management is looking for any personnel who have a valid ham radio license and would like to participate in this program. Any person interested in joining the SFD-CCEMS emergency communications team should contact Gary Roberts, Assistant Fire Chief and Emergency Manager by email at gary.roberts@sfd-ccems.org or cell phone at (435) 757-7321.

Team recruitment will be ongoing for the remainder of 2010 and maybe longer, depending on recruitment results.

Thank you.

-Gary Roberts

FIRE 402 / AG1T

Assistant Fire Chief / Emergency Manager

Administration, Special Operations and Emergency Management

Smithfield Fire and Cache County EMS

325 W 100 N

Smithfield, UT 84335

Work: (435) 563-3056 ext. 402

Cellphone: (435) 757-7321

For the March Club Meeting Dale Hooper was our guest speaker. Dale works at the Space Dynamics Laboratory and is a member of the Society of Amateur Radio Astronomers (SARA) and spoke about Microwave dishes, some of the things you can do with them and some of the problems he overcame while using them in Amateur Radio.



The ARRL Letter for March 18, 2010

FCC News: FCC Releases National Broadband Plan

On Tuesday, March 16, the FCC held an Open Meeting to introduce its report *Connecting America: The National Broadband Plan (NBP)* that was delivered to Congress that afternoon. Calling it "an ambitious agenda for connecting all corners of the nation while transforming the economy and society with the communications network of the future -- robust, affordable Internet," the Commission found that nearly 100 million Americans lack broadband at home today and 14 million Americans do not have access to broadband.

FCC Releases National Broadband Plan

This morning, the FCC held an Open Meeting to [introduce its report](#) *Connecting America: The National Broadband Plan (NBP)* that will be delivered to Congress today. Calling it "an ambitious agenda for connecting all corners of the nation while transforming the economy and society with the communications network of the future -- robust, affordable Internet," the Commission found that nearly 100 million Americans lack broadband at home today and 14 million Americans do not have access to broadband.



"The *National Broadband Plan* is a 21st century roadmap to spur economic growth and investment, create jobs, educate our children, protect our citizens and engage in our democracy," said FCC Chairman Julius Genachowski. "It's an action plan, and action is necessary to meet the challenges of global competitiveness, and harness the power of broadband to help address so many vital national issues."

Perhaps as important as what the *NBP* contains is what it does *not* contain. "Scanning through its 376 pages, there is but one reference to broadband over power lines ([BPL](#)) -- and that is only a passing mention of its classification as an information service," said ARRL Chief Executive Officer David Sumner, K1ZZ. "There is *no* mention of BPL as a means of implementing the *Plan's* goals for broadband deployment. In short, the FCC sees *no role* for BPL in providing broadband Internet connections to more consumers."

Sumner said that this is not surprising, given that the *Plan's* goals call for speeds that BPL cannot deliver, "but it is still good news for all radiocommunication services -- including the Amateur Radio service -- that have experienced interference from the spectrum pollution that inevitably results from deliberately introducing radio frequency energy on unshielded, unbalanced conductors. This conclusion delivers on Chairman Genachowski's pledge to reintroduce 'fact-based, data-driven' policymaking at the FCC, since the FCC's own data clearly shows that BPL -- with only about 5000 customers nationwide several years after its much-ballyhooed introduction -- has failed in the marketplace. If BPL technology plays any role in fulfilling the *NBP*, it will be in connection with Smart Grid applications, although it is not specifically mentioned even in that section of the report."

As for what the *NBP* does contain, the report recommends that the FCC should make 500 megahertz of spectrum newly available for broadband use within the next 10 years, including 300 megahertz between 225 MHz and 3.7 GHz for mobile use within five years. Among the spectrum earmarked in the report is 20 megahertz in the Wireless Communications Service (WCS) bands at 2305-2310, 2310-2320 and 2345-2360 MHz. It remains to be seen whether our secondary allocation of 2305-2310 MHz -- which is the lower of two paired 5-MHz WCS bands called Block A in Part 27 of the FCC Rules -- is targeted. The report also recommends that "[t]he FCC, within the next 10 years, should free up a new, contiguous nationwide band for unlicensed use." Sumner notes that this could have an impact on the Amateur Radio Service.

The *Plan's* call for action over the next decade includes the following goals and recommendations:

- Connect 100 million households to affordable 100-megabits-per-second service, building the world's largest market of high-speed broadband users and ensuring that new jobs and businesses are created in America.

- Affordable access in every American community to ultra-high-speed broadband of at least 1 gigabit per second at anchor institutions such as schools, hospitals, and military installations so that America is hosting the experiments that produce tomorrow's ideas and industries.
- Ensure that the United States is leading the world in mobile innovation by making 500 megahertz of spectrum newly available for licensed and unlicensed use.
- Move our adoption rates from roughly 65 percent to more than 90 percent and make sure that every child in America is digitally literate by the time he or she leaves high school.
- Bring affordable broadband to rural communities, schools, libraries, and vulnerable populations by transitioning existing Universal Service Fund support from yesterday's analog technologies to tomorrow's digital infrastructure.
- Promote competition across the broadband ecosystem by ensuring greater transparency, removing barriers to entry, and conducting market-based analysis with quality data on price, speed and availability.
- Enhance the safety of the American people by providing every first responder with access to a nationwide, wireless, interoperable public safety network.

A beta release of a "[spectrum dashboard](#)" is scheduled to make its appearance tomorrow on the FCC's Web site. According to the report, "This Internet-based software enables user-friendly access to information regarding spectrum bands and licenses, including those that may be suitable for wireless broadband deployment. The initial version includes general information about non-federal use of spectrum bands in the range of 225 MHz to 3.7 GHz as well as more detailed information about bands of particular relevance to broadband."

"In terms of overarching policy issues that have the potential to impact the Amateur Radio Service, the two that seem to me to be of the greatest significance relate to spectrum fees and auctions," Sumner explained. "Also, the report suggests that it may be desirable for the FCC to reverse the migration of digital television broadcasting stations to the UHF bands, which are potentially of more utility for mobile broadband, by addressing the technical issues that make the VHF TV channels more difficult for digital broadcasting. All in all, the *NBP* is an impressive document that deserves careful study."

The Plan was mandated by the American Recovery and Reinvestment Act in February 2009 and produced by an FCC task force. Information for the plan was gathered in 36 public workshops, 9 field hearings and 31 public notices that produced 75,000 pages of public comments. The debate went online with 131 blogposts that triggered 1489 comments, 181 ideas on IdeaScale garnering 6100 votes, 69,500 views on YouTube, as well as and 335,000 Twitter followers. The task force augmented this with independent research and data-gathering. About half of the Plan's recommendations are addressed to the FCC, while the remainder are for Congress, the Executive Branch, state and local government, working closely with the private and nonprofit sectors.

"You can find the *Plan* online at www.broadband.gov/plan," Sumner noted. "If you spot anything that is particularly deserving of our attention, please share it."

ARRL Rocky Mountain Division Convention

The 2010 Rocky Mountain Division Convention is going to be a fantastic event, and all hams across the Division are invited to be a part of it. It will take place Memorial Day weekend (May 28-30, 2010) at the newly renovated, 302-room Platte River Resort in Casper, Wyoming. Details, including schedules and registration forms, await you on the event's website: <http://wyomingsection.org/wiki/index.php/Convention>. Online registration via Paypal is also available for your convenience.

Here are some of the highlights:

- Keynote speaker: ARRL President Kay Craigie W3KN
- Special Guest Speaker: ARRL Contest Manager Sean Kutzko KX9X
- W1AW/WY7 will be on the air -- experience being behind a real W1AW pileup!
- Free swapfest
- Saturday evening dinner banquet
- Prizes
- Great food

- Forums, including: Severe weather training, Packet/APRS, GPS, Contesting, Public relations, DXpeditions, ARES/RACES, Antenna building and repair, County hunting, Served agencies (VOAD), FlexRadio, Paper chasing, VHF/UHF, MARS, ARRL, Youth in amateur radio, Building your club, and more.
- Special Platte River Resort hotel room rate of \$65 per night by mentioning Rocky Mountain Convention when making reservations.
- RVers enjoy a 10% discount at the Casper KOA by mentioning they are attending the Convention when making reservations.
- Outside of the convention: Fly-fishing and plenty of other attractions for spouses and the entire family nearby.



We look forward to seeing many hams from around the Division and surrounding states at the 2010 Rocky Mountain Division Convention.

ARRL Rocky Mountain Division
 Director: Brian Milesosky, N5ZGT
n5zgt@arrl.org

The ARRL Letter for March 25, 2010

FCC News: FCC Issues Notice of Proposed Rule Making on Government Disaster Drills and Amateur Radio



On March 24, the FCC released a *Notice of Proposed Rule Making (NPRM)* proposing to amend the Commission's Amateur Radio Service rules "with respect to Amateur Radio operations during government-sponsored emergency preparedness and disaster readiness drills and tests." While current rules provide for Amateur Radio use during emergencies, the rules prohibit communications where the station licensee or control operator has a pecuniary interest, including communications on behalf of an employer. In October 2009, the FCC released a *Public Notice* clarifying the Commission's rules relating to the use of Amateur Radio by licensed amateurs participating in drills and exercises on behalf of their employers. To date, the FCC has granted several dozen waivers under this new policy.

The FCC notes that while there are some exceptions to this prohibition, "there is none that would permit amateur station control operators who are employees of public safety agencies and other entities, such as hospitals, to participate in drills and tests in preparation for such emergency situations and transmit messages on behalf of their employers during such drills and tests." Based on that, the Commission proposes to amend the rules to provide that, under certain limited conditions, Amateur Radio operators may transmit messages during emergency and disaster preparedness drills, regardless of whether the operators are employees of entities participating in the drill.

Background

Per [Part 97.1\(a\)](#), one of the fundamental principles underlying the Amateur Radio Service is the "[r]ecognition and enhancement of the value of the Amateur Service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications." The rules, in [Section 97.403](#), also state that "[n]o provision of these rules prevents the use by an amateur station of any means of radio communication at its disposal to provide essential communication needs in connection with the immediate safety of human life and immediate protection of property when normal communication systems are not available." Read more [here](#).

Legislative Affairs: ARRL Requests Support for S 1755



Senate Bill 1755 -- *The Amateur Radio Emergency Communications Enhancement Act of 2009* introduced in October 2009 by Senators Joe Lieberman (ID-CT) and Susan Collins (R-ME) -- has unanimously passed the US Senate and has been sent to the US House of Representatives for consideration and now sits in the House Committee on Energy and Commerce. The ARRL is asking its membership to contact the leadership of the Energy and Commerce committee, requesting support and action on moving S 1755 through the

committee. S 1755 accomplishes the same things as HR 2160; HR 2160 was introduced in April 2009 by Rep Sheila Jackson Lee (D-TX-18). Since S 1755 has already been approved by the Senate, moving it forward in the House will simplify the process.

S 1755 points out that "[t]here is a strong Federal interest in the effective performance of Amateur Radio Service stations, and that performance must be given -- (A) support at all levels of government; and (B) protection against unreasonable regulation and impediments to the provision of the valuable communications provided by such stations."

If enacted into law, S 1755 would instruct the Secretary of Homeland Security ([DHS](#)) to undertake a study -- and report its findings to Congress within 180 days -- on the uses and capabilities of Amateur Radio communications in emergencies and disaster relief.

The study shall:

- Include recommendations for enhancements in the voluntary deployment of Amateur Radio licenses in disaster and emergency communications and disaster relief efforts.
- Include recommendations for improved integration of Amateur Radio operators in planning and in furtherance of the Department of Homeland Security initiatives.
- Identify unreasonable or unnecessary impediments to enhanced Amateur Radio communications, such as the effects of private land use regulations on residential antenna installations, and make recommendations regarding such impediments.
- Include an evaluation of Section 207 of the Telecommunications Act of 1996 (Public Law 104-104, 110 Stat. 56 (1996)).
- Recommend whether Section 207 should be modified to prevent unreasonable private land use restrictions that impair the ability of amateurs to conduct, or prepare to conduct, emergency communications by means of effective outdoor antennas and support structures at reasonable heights and dimensions for the purpose, in residential areas. The Secretary of Homeland Security shall utilize the expertise of stakeholder entities and organizations, including Amateur Radio, emergency response and disaster communications.

Please contact Committee Chairman Henry Waxman (D-CA-30) and Ranking Member Joe Barton (R-TX-6), urging them to send this bipartisan bill to the House floor for adoption. A sample letter can be found [here](#). Send your letters urging consideration of S 1755 by the House Committee on Energy and Commerce to Rep Waxman via fax at 202-225-2525, and to Rep Barton via fax at 202-225-1919. Also, please fax a copy of your letters to the ARRL's Washington representative, Chwat & Co at 703-684-7594.

For more information on S 1755, please visit the [ARRL Government Relations Web page](#).

The ARRL Letter for April 1, 2010

Public Service: ARRL Signs Memorandum of Understanding with American Red Cross

On Thursday, March 25 ARRL President Kay Craigie, N3KN, signed a new *Memorandum of Understanding (MoU)* with the American Red Cross (ARC) at ARC National Headquarters in Washington, DC. The *MoU*, which replaces an earlier *Statement of Understanding* that expired in 2007, provides a "broad framework for cooperation" between the ARRL and the ARC "in preparing for and responding to disaster relief situations at all levels in rendering assistance and service to victims of disaster, as well as other services for which cooperation may be mutually beneficial."

The ARRL Board of Directors approved the signing of the *MoU* at its January 2010 meeting following the completion of negotiations. The Red Cross requires the completion of a criminal background check to participate in Red Cross activities and provides a process by which a volunteer may have a criminal background check performed at no cost to the volunteer. In the case of ARRL volunteers, the Red Cross has agreed to accept an alternative process: ARRL volunteers may arrange, at their own initiative and expense, to have the criminal background check performed by a state or local law enforcement agency.

The Red Cross also has agreed that ARRL volunteers shall not be asked or required to consent to credit checks, mode of living investigations or investigative consumer reports in order to provide a communications function.

The ARRL and the Red Cross encourage interested volunteers in their respective organizations to become members and to participate in the activities of the other organization. ARRL volunteers should be aware that if they wish to become Red Cross volunteers, they may be required to consent to additional background checks in accordance with Red Cross policy that may include credit checks, mode of living investigations or investigative consumer reports.

Per the *MoU*, "both ARRL volunteers and ARC workers will work cooperatively at the scene of a disaster and in the disaster recovery, within the scope of their respective roles and duties as recommended." During a Red Cross Disaster Relief Operation (DRO) and depending on their training and qualifications, ARRL volunteers may perform in one or more of several roles, including Amateur Radio Liaison, Communication Equipment Operator, Communication Equipment Installation/Repair and Disaster Assessment. ARRL volunteers who are assigned roles by the Red Cross during a DRO will be provided with Red Cross credentials as required by the role, consistent with Red Cross policy.

"Because of the importance of emergency communications, we are happy to be able to continue the League's long-standing relationship with the American Red Cross," said ARRL President Kay Craigie, N3KN. "The ARC and other served agencies give Amateur Radio operators the worthwhile missions in our communities that allow us to thank America for the privilege of being hams."



ARRL President Kay Craigie, N3KN, signs the new *Memorandum of Understanding* with the American Red Cross as American Red Cross President and CEO Gail McGovern looks on. [Michael Halston, ARC, Photo]

New ARRL Web Site Undergoes Further Testing Before Launch



According to ARRL Chief Operating Officer, Harold Kramer, WJ1B, we are currently finishing the final pre-launch adjustments and testing the new ARRL Web site and plan to launch it by April 12. "This launch has been a longer than anticipated process for all of us," Kramer said, "but we have learned a lot during the past two years as we conducted research about what people want from the ARRL Web site. We created a new architecture and navigation scheme to meet those needs and we implemented a contemporary new design. After that, we updated our current Web content and created lots of brand new content, including multimedia. We then began integrating the incredibly complicated functionality, e-commerce, advertising and database connections from the current Web to the new Web site. It has been a lot of work, and while it is disappointing that we are not out the door quite yet, we are now in the home stretch.

When the new ARRL Web site debuts, we just want to be sure that it looks great, works well in meeting the needs of our members and that it is something that we can all be proud of."

The ARES E-Letter for March 24, 2010 Reading List

Here is a good [clip](#) on D-STAR.

From Les Rayburn, N1LF: Great NPR article on solar storms [here](#).

Rayburn also recommends an [article](#) on how people react in a disaster situation. A team of behavioral economists from Switzerland and Australia have published a new paper in the Proceedings of the National Academy of Sciences (PNAS) that takes an imaginative new look at who survived and who perished aboard the two ships Lusitania and Titanic, and what the demographics of death say about how well social norms hold up in a crisis.

A good item from Stan Horzepa, WA1LOU: [Using the Internet as a Public Service Radio Scanner](#).

A Top Ten List of BUMPER STICKERS!

1. Your fingerprints never fade from the lives you touch.
2. If what you don't know can't hurt you—you must be practically invincible.
3. The future belongs to those willing to get their hands dirty.
4. Don't let success go to your head or failures go to your heart.
5. Honk if you love Jesus, Text if you want to meet Him.
6. Hokey Pokey Anonymous...a place to turn yourself around.
7. If it weren't for physics and law enforcement I'd be unstoppable.
8. Don't believe everything you think.
9. A nation of sheep will beget a government of wolves.
10. The best things in life are not things.

Questions for Technician Class License

1. (T1A06) How many and what class of Volunteer Examiners are required to administer an Element 2 Technician written exam?
 - A. Three Examiners holding any class of license
 - B. Two Examiners holding any class of license
 - C. Three Examiners holding a Technician Class license
 - D. Three Examiners holding a General Class license or higher
2. (T2B01) What must you transmit to identify your amateur station?
 - A. Your tactical ID
 - B. Your call sign
 - C. Your first name and your location
 - D. Your full name
3. (T3B02) Which of the following statements is true of band plans?
 - A. They are mandated by the FCC to regulate spectrum use
 - B. They are mandated by the ITU
 - C. They are voluntary guidelines for efficient use of the radio spectrum
 - D. They are mandatory only in the US
4. (T4B07) What is the formula for converting frequency to wavelength in meters?
 - A. Wavelength in meters equals frequency in Hertz multiplied by 300
 - B. Wavelength in meters equals frequency in Hertz divided by 300
 - C. Wavelength in meters equals frequency in megahertz divided by 300
 - D. Wavelength in meters equals 300 divided by frequency in megahertz
5. (T5B05) What is a way to enable quick access to a favorite frequency on your transceiver?
 - A. Enable the CTCSS tones
 - B. Store the frequency in a memory channel
 - C. Disable the CTCSS tones
 - D. Use the scan mode to select the desired frequency
6. (T6B04) What technology do Echolink and IRLP have in common?
 - A. Voice over Internet protocol
 - B. Ionospheric propagation
 - C. AC power lines
 - D. PSK31
7. (T7B07) What is Doppler shift?
 - A. A change in the satellite orbit
 - B. A mode where the satellite receives signals on one band and transmits on another
 - C. A change in signal frequency caused by motion through space
 - D. A special digital communications mode for some satellites
8. (T8B02) When may you use your amateur station to transmit a "SOS" or "MAYDAY" signal?
 - A. Only when you are transmitting from a ship at sea
 - B. Only at 15 and 30 minutes after the hour
 - C. When there is immediate threat to human life or property
 - D. When the National Weather Service has announced a weather warning
9. (T9C06) What instrument other than a SWR meter could you use to determine if your feedline and antenna are properly matched?
 - A. Voltmeter
 - B. Ohmmeter
 - C. Iambic pentameter
 - D. Directional wattmeter
10. (T0C07) What could happen if a person accidentally touched your antenna while you were transmitting?
 - A. Touching the antenna could cause television interference
 - B. They might receive a painful RF burn injury
 - C. They would be able to hear what you are saying
 - D. Nothing

(For answers to test questions see page 14)

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Answers to questions on page 13: 1-D, 2-B, 3-C, 4-D, 5-B, 6-A, 7-C, 8-C, 9-D, 10-B