



ARES COMMUNICATOR

Information for Scott County Amateurs



May, 2018

Accurate, Reliable Emergency Communications for our Community

Volume 18, Number 5

Amateur Radio Parity Act

Inserted in National Defense Authorization Act

ARRL is praising the work of US Representatives Joe Courtney (D-CT), Vicky Hartzler (R-MO), and Mike Rogers (R-AL) for their successful efforts in securing language in the National Defense Authorization Act (NDAA) for Fiscal Year 2019 that aids in the survival and growth of Amateur Radio by giving radio amateurs the right to install an outdoor antenna at their residences with the approval of their homeowners associations. This language - text from the proposed Amateur Radio Parity Act (HR 555) - formed the basis for the Courtney-Hartzler-Rogers Amendment to the NDAA.

The Armed Services Committee passed the NDAA by a 60-to-1 voice vote after a 14-hour markup that ran well into the night. The bill now awaits House floor action. The Senate will begin its markup of the NDAA during the week of May 21.

Representatives Courtney and Adam Kinzinger (R-IL) spearheaded the effort to include the Parity Act language in the NDAA. Both are cosponsors of the Parity Act, which has passed the House by voice vote twice in the past 2 years.

“The steadfast support of the Amateur Radio community continually demonstrated by Congressmen Kinzinger and Courtney has been a godsend,” said Hudson Director Mike Lisenco, N2YBB. “The Parity Act wouldn’t be anywhere close to this stage without their strong support, and our organization is extremely grateful.”

Lisenco, who serves as Chairman of the ARRL Board’s Legislative Advocacy Committee, also recognized other promoters of Amateur Radio, including House Energy and Commerce Committee Chairman Greg Walden, W7EQI (R-OR), Energy and Commerce Ranking Member Frank Pallone (D-NJ), and House Armed Services Committee Chairman Mac Thornberry (R-TX). “We are deeply grateful for their continued understanding and support,” Lisenco said. ARRL will continue to press for support to enact the Amateur Radio Parity Act throughout the legislative process.

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The ARES COMMUNICATOR is published for the benefit of Amateur Radio Operators in Scott County and other interested individuals.

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SILENT KEY



Bob Myster, KBOFH

Bob Myster passed away on April 21, 2018 at home surrounded by family. A memorial gathering was held on April 24th. Bob was laid to rest at Fort Snelling National Cemetery. Bob proudly served his country in the U.S. Navy.

Bob Myster *cont'd on page 2*

ARES Activities

Weekly Net Monday 7 PM 146.535 mhz (s)

Breakfast Saturday, June 9th

Digital Monday, June 11th

ARES Nets

MN ARES Phone Net

6:00PM Sunday Freq: 3.860 mhz

ARRL MN Phone Net

12:00p, 5:30p CST Daily Freq: 3.860 mhz

ARRL MN CW Net

6:30p, 9:50p CST Daily Freq: 3.568 mhz

NETS WITH OUR NEIGHBORS

North Dakota: Daily 3.937 mhz 6:30pm

South Dakota: Daily 3.860 mhz 6:00pm

Wisconsin: Daily 3.985 mhz 5:30pm

Iowa: Daily 3.970 mhz 12:30/5:30pm

Bob Myster - cont'd from page 1

Bob was a long time member of Scott County ARES. KBOFH often served as net control for the Marathon for Non-public Education net as Scott ARES provided support for the safety of the participants. He enjoyed giving back to the community and was a great ambassador for amateur radio and Scott ARES.

His interest in gardening along with his travels always contributed to discussion during the weekly nets. Memory problems complicated his radio operating in recent years. His cheerful friendly voice will be missed.

BREAK - OVER



Scott County ARES Contacts

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Test Your NIMS Knowledge

This month we begin our review of ICS-700, An Introduction to National Incident Management System. This course is designed to enable personnel to operate efficiently during an incident or event within the Incident Command System (ICS). ICS-700 provides an overview of the NIMS structure.

Check your recall of the course material with this question.

1. Homeland Security Presidential Directive 5 (HSPD-5) requires all Federal departments and agencies to:
 - a. Establish a panel that will evaluate activities at the State, tribal, and local levels to ensure compliance with NIMS.
 - b. Make adoption of NIMS by State, tribal, and local organizations a condition for Federal preparedness assistance (through grants, contracts, and other activities).
 - c. Create NIMS strike teams that can manage incident operations if a local government fails to comply with NIMS.
 - d. Implement NIMS as the doctrine for how best to organize and manage all routine, day-to-day department/agency operations.

Check next month's ARES Communicator for the solution

April NIMS Knowledge Solution

1. The information and intelligence function may be organized in one of the following ways:
 - Within the Command Staff
 - As a Unit Within the Planning Section
 - As a Branch Within the Operations Section
 - _____
- (c) As a separate General Staff Section

NBEMS Current Versions

The current version of the Fldigi manual is available at NBEMS Info page at www.scottares.org. Look under the 'Help Sheets' heading.

Now is a good time to check to your digital software to make sure you are running the newest versions. You can find the most recent versions posted at both: www.w1hkj.com/ and www.scottares.org/NBEMS.htm

Here are the most recent releases as of April 16, 2018.

Software	Version
Fldigi	4.0.16
Flwrap	1.3.4
Flmsg	4.0.6
Flamp	2.2.03

The Monday evening training net is a great place to have your digi questions answered and problems solved! Join the Scott ARES group on 146.535 MHz simplex at 7:00pm on Monday evenings.



Electric Grid Attack?

FERC

Imagine for a moment what a prolonged electrical outage would look like for families and communities across America. There'd be no calling or texting to connect with loved ones. No emailing with colleagues or using other technology to conduct business. No catching up on the news or enjoying a hot meal at the end of a long workday. Families would be forced to go without so many of the modern conveniences they rely on day in and day out.

Still, none of this comes close to revealing the full magnitude of a long-lasting disruption in the electrical grid. There are much greater, even life-threatening, consequences to consider. For a patient, a lengthy outage could mean not getting the urgent care they need. For someone in danger, it could mean not receiving help from authorities before it's too late. For every single American, it could mean not having access to even the bare necessities of life, like clean water and food.

Though often taken for granted, reliable affordable electricity is at the core of modern society. But as reliance upon electricity has increased over the past several decades, so have the quantity and complexity of threats to the nation's grid.

From changes in the generation mix, to the effects of climate change, to physical and cybersecurity risks, the grid faces a growing number of challenges. In particular, cyberthreats pose a particularly alarming concern to the reliability of our electric grid and, therefore, the security and prosperity of our nation.

It's no secret that America's critical infrastructure is under increasing attack by foreign nations. Both the Department of Homeland Security and FBI have issued multiple public reports describing intrusion campaigns by Russian government cyber actors against our critical infrastructure, including the electric grid. While thankfully none of these intrusions have resulted in an actual power outage, they do represent an unsettling uptick in attempts to undermine America's critical infrastructure systems. Fortunately, agencies across the federal government are already taking important steps in the right direction.

For instance, at the Federal Energy Regulatory Commission, we have adopted a two-pronged approach to help secure the electric grid, including mandatory reliability standards as well as voluntary best practices and threat information sharing. While

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these efforts are important, comprehensively addressing emerging threats requires both strengthening our defenses and bolstering the grid to withstand and recover quickly from extreme events. To this end, FERC is currently evaluating grid resilience, including the ability to withstand cyberattacks, as a continuation of the important conversation that Department of Energy Secretary Rick Perry initiated in 2017.

Throughout our process, the commission should work to address a critical question: What threats must the grid be designed to withstand? Traditionally, that expectation has included two primary criteria: one, there must be enough generation to meet demand; and two, the grid must withstand the loss of any single transmission element or generator without customers losing power.

Given the nation's increasing reliance on electricity and escalating threats to the grid, it's crucial that we evaluate whether these historic norms are enough or if additional steps are needed. For example, could the grid hold up against a cyberattack on a gas pipeline which could disrupt fuel to multiple generators? What about a cyberattack that could disable an entire substation?

These are important questions to examine, yet the unfortunate truth remains that, regardless of our diligence, it may not be possible or cost effective to design the grid to withstand every single cyberattack, every single time. However, taking steps to reduce the size of disruptions and enhance the grid's ability to bounce back quickly are both reasonable and important endeavors.

FERC faces a historic opportunity to holistically examine the array of new challenges confronting America's electric grid, including those posed by cyberthreats. Though it may not be possible to fully prevent all attacks, this discussion is critical in determining how the grid can be designed to cost-effectively withstand or recover from future events. This evaluation will not be easy or quick, but it's imperative that it move forward without delay. The continued security and prosperity of the country demands no less.

BREAK - OVER

"Smart is when you believe only half of what you hear. Brilliant is when you know which half to believe."

A. Nony Moose

Volcanic Eruption Radio!

Informal Nets Maintained

Two informal informational nets remain open on the island of Hawaii ("The Big Island") in the wake of recent and ongoing volcanic eruptions and seismic activity, Pacific Section Emergency Coordinator Clement Jung, KH7HO, reports. No formal traffic has been passed, but frequencies are being monitored.

"All normal communications, such as cell, landline phones, internet, and public safety, are operational," Jung told ARRL. Fissures associated with the Kilauea volcano on The Big Island began erupting on May 3, spewing lava and venting high levels of sulfur dioxide.



Kilauea lava advances.

An Amateur Radio net is in operation on 7.088 MHz (SSB), and the Voluntary Organizations Active in Disaster (www.nvoad.org) 146.720 MHz repeater (100 Hz tone) on Mauna Kea was activated after Hawaii's governor issued an emergency declaration. A federal disaster declaration has been approved.

The Hawaiian Volcano Observatory reports active venting of lava and hazardous fumes continues, with no end in sight. The Hawaii Volcanoes National Park closed after roads and trails were damaged. The Observatory this week increased the Aviation Color Code to RED, due to increased ash emission.

FEMA reports some 360 evacuees are staying in emergency shelters. Some 2,000 residents have been evacuated in all. "Twenty fissure vents have formed in and around the Leilani estates subdivision," the agency said in its May 17 report. "Air quality in the southeast area of Lanipuna Gardens has been rated 'condition red' (immediate danger to health) for high levels of sulfur dioxide. Volcanic-tectonic seismicity continues."

The US Geodetic Survey has warned that new lava outbreaks could happen "at any time," as well as "more energetic ash emissions."

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First Thursday Net

Metro District Hospital Net

The Metro District ARES Hospital net is held on the first Thursday of each month. The purpose of the net is to provide an opportunity to exercise Dual-band xcvrs installed at hospitals and clinics in the metro area. The net is open to all amateur radio ops and provides the opportunity to participate in a directed net and practice directed net procedures.

Everyone is welcome!

- First Thursday of each month
- 12:30PM (lunch time)
- 146.700 - (PL118.8)



Memorial Day is the time we remember the military men and women who paid the ultimate sacrifice serving our country.

Honor their service by helping our wounded heroes who are still struggling today.



Marissa and Juliana went out for drinks together. They ordered the same drink. Juliana was really thirsty and finished five in the time it took Marissa to finish one. The drinks were poisoned, but only Marissa died. How?

Last Man Standing

Ham Radio Returns!

There *will* be a season 7 of the TV show *Last Man Standing*, in which Tim Allen — a real radio amateur — plays Mike Baxter, KA0XTT. The primary difference is that the show now will



Tim Allen as Mike Baxter, KA0XTT, with his stage grandson, played by Flynn Morrison, in a 2014 episode.

appear on the Fox Network. A year ago, ABC axed *Last Man Standing*, which had attracted more than 8.3 million viewers.

The network did not own the show but was licensing it from 20th Century Fox. John Amodio, NN6JA, has been a co-executive producer, producer, or supervising producer of the comedy and was instrumental in Allen's getting his ham radio license in 2014; more than 2 dozen members of the crew were also inspired by the show's Amateur Radio component, and got licensed. Allen tweeted news of the Fox reboot on May 11.

"Thanks to all you guys for the support," Allen said. "We are back."

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National Hamburger Day May 28th

What would a Memorial Day, or Fourth of July picnic be without the very American hamburger? It is only fitting that we have a special day to celebrate our cherished burgers.



Hamburgers are American in origin. However, there is much controversy as to whether Hamburgers were first created in the 19th or the 20th century.

Have it your way. The best way to cook a hamburger, is grilled on an outdoor grill. You can also cook them indoors on a frying pan. Add your favorite fixings. Cheese is all but a must. Then, there's lettuce, tomatoes, pickles, onions, bacon, and so much more. And, don't forget the condiments. Mustard, ketchup, and relish are the favorites.

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Surf's Up!

Surfing the web for interesting topics related to radio, building, computing, and anything else interesting along the way

Ocelot Arcade System

<http://www.mrdictionary.net/ocelot/>

The Ocelot Arcade System is a unique home arcade console, based on the Microchip dsPIC33 microcontroller, that brings cutting-edge graphics and sound technologies into your living room. It uses a high-speed, high-precision, dual-channel DAC to generate 2D vector output. Two phono connectors on the side of the case allow connection to an oscilloscope configured in X Y mode. The 9-pin port on the front panel accepts common Amiga or Atari joysticks as well as correctly powering and reading Master System and Mega Drive controller pads.

Analog Engineer's Circuit Cookbooks

www.ti.com/analog-circuit/circuit-cookbook.html

Texas Instruments is offering a couple of free PDF downloads. To simplify and speed system design, our Analog Engineer's Circuit Cookbooks deliver a comprehensive library of sub-circuit ideas that you can easily adapt to meet your specific end equipment needs. Each circuit is a "recipe" that includes step-by-step instructions, basic formulas, schematic diagrams and SPICE simulations.

* Analog-to-Digital Converters (ADCs)

* Operational Amplifiers (Op Amps)

Ubitx For Visually Impaired Ham Radio Operators

<https://sourceforge.net/projects/kb1oiq-ham-radio-projects/files/ubitx/>

Andy, KB1OIQ, made many modifications to the uBITX (HFSignals.com) to make it accessible to visually impaired ham radio operators. The mods have been "field tested" with the breadboarded prototype by a local ham radio operator who is blind, who contributed great feedback. The main differences are the addition of a keypad and a voice synthesis module, plus major refactoring and modification of the original sketch from VU2ESE.

Andy documented everything with the intention that others could easily reproduce this variation of the uBITX. It is his hope that folks will take this work and build one for a local ham who is blind.

The hardware modifications, the heavily modified Arduino sketch, plus photos, videos, and a user's guide, can all be found at the Sourceforge link above.

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FT8 Activity

FT8 Activity Bumping Up

Despite largely dismal HF conditions, there is no doubt that the recent FT8 digital protocol has hams on the air. The mode has caught on so quickly that co-developer Joe Taylor expressed surprise last fall at the rapid uptake of FT8 for making contacts on HF bands. Judging by Logbook of The World (LoTW) data, more than 2.3 million FT8 contacts were uploaded in 1 month — a net gain of 1.2 million contacts on all modes over the same month last year, ARRL Radiosport Manager Norm Fusaro, W3IZ, said. Over the same period, activity in some of the other modes has declined.

“Year-to-date DXCC applications are up by 11% over the same period last year,” Fusaro said. “So far, we have processed 898 Worked All States (WAS) applications — a 72% increase over the same period last year. Of those applications, 347 — or 39% — were FT8 endorsements. Application for VUCC are also up by 33% over 2017.”

Fusaro said that while some feel that FT8 is “taking over the world,” subsuming all other modes, that’s not the case. “Activity in the traditional modes of SSB and CW has decreased only slightly, by 10%,” he said.

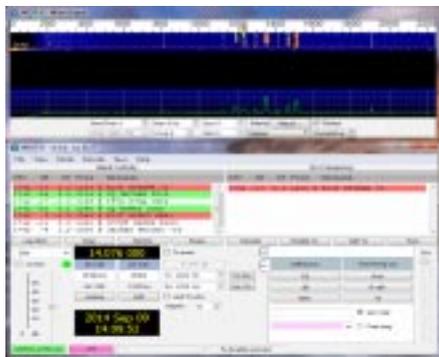
“The *real* decrease is in RTTY and PSK activity and in the other *WSJT-X* modes. I believe poor propagation would have cut into SSB and CW activity, regardless of the new mode.” Anecdotal reports support Fusaro’s hard numbers, with wall-to-wall signals surrounding the FT8 watering holes.

Late last year, Denny Berg, WB9MSM, achieved his goal of completing DXCC using FT8. It took him just 4 months.

“I can tell all of you that this mode is spreading like wildfire throughout all the HF bands,” Berg told The Daily DX at the time. He said he was able to work all states on FT8 in about 6 weeks of operating.

Taylor has characterized SSB and CW as “general-purpose modes” that are good for ragchewing, DXing, contesting, disaster communication, and other purposes. On the other hand, he has said, FT8 and the other protocols in the WSJT-X < <https://physics.princeton.edu/pulsar/k1jt/wsjt.html> > suite are “special-purpose modes,” designed for making reliable, error-free contacts using signals that may be too weak to work using more traditional modes — and sometimes even too far down in the noise even to hear.

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Take a Dip in the General Pool

Time to test your knowledge of the information covered by the General Class license exam. Each month we’ll take a look at a selection from the question pool.

Strap on your thinking cap and see what you can recall. Here is this month’s sample:

1. What would be the RMS voltage across a 50-ohm dummy load dissipating 1200 watts?
A. 173 volts
B. 245 volts
C. 346 volts
D. 692 volts
2. What is the total resistance of three 100-ohm resistors in parallel?
A. .30 ohms
B. .33 ohms
C. 33.3 ohms
D. 300 ohms
3. Which of the following describes a thermistor?
A. A resistor that is resistant to changes in value with temperature variations
B. A device having a specific change in resistance with temperature variations
C. A special type of transistor for use at very cold temperatures
D. A capacitor that changes value with temperature

(Check next month’s issue of the ARES Communicator for the answer.)



The poison was in the ice. Since Marissa’s ice had time to melt, she was poisoned but Juliana wasn’t.

April General Pool Answers

1. What percentage of power loss would result from a transmission line loss of 1 dB?
C. 20.5%
2. Which part of a transformer is normally connected to the incoming source of energy?
B. The primary
3. Which of the following is a reason not to use wire-wound resistors in an RF circuit?
B. The resistor’s inductance could make circuit performance unpredictable

Amateur Radio License Exam

Want to become a ham? Want to upgrade your license? You can find information and resources to success in ham radio at this page: <http://www.scottares.org/License Info.htm>

If you want to ask questions or find a local Elmer (Mentor) just drop an email to: newhaminfo@scottares.org

The hams in Scott ARES gather for breakfast the first Saturday of the month at the Perkins Restaurant in Savage. Bring you ham radio questions and talk to local amateur radio operators.

Now that you have done the work to study for your upgrade, here is where to find a convenient exam session near you. There is a VE exam search engine at: http://www.arrl.org/exam_sessions/search

Walk-ins allowed at most sessions however it is always best to check the details at the specific session you are planning to attend. Below is a list of scheduled sessions close to Scott County. Good Luck!

May 29, 2018 Tuesday 6:00 PM

Sponsor: SMARTS
Dale A. Blomgren (952) 402-2155
Email: kdzerob@aol.com
Location: Carver County Library
7711 Kerber Blvd
Chanhassen MN 55317
Walk-ins allowed, Pre-reg requested

June 02, 2018 Saturday 10:00 AM

St Paul Radio Club
Leon H. Dill (651) 688-9964
Email: w0coec@arll.net
Location: Ramsey Co Library Maplewood
3025 Southlawn Dr
Saint Paul MN 55109-1577
Walk-ins allowed, Pre-reg requested

June 13, 2018 Wednesday 7:00 PM

Sponsor: VARC
James C. Rice (612) 384-7709
Email: jrice@danpatch.org
Location: Perkins Restaurant & Bakery
17387 Kenyon Avenue
Lakeville MN 55044-4459
Walk-ins allowed, Pre-reg requested

June 16, 2018 Saturday 9:00 AM

Sponsor: SEMARC
Daniel M. Franz (651) 769-0358
Email: wd0gup@hotmail.com
Location: Zion Lutheran Church
8500 Hillside Trail South
Cottage Grove MN 55016
Walk-ins allowed, Pre-reg requested

June 23, 2018 Saturday 8:45 AM

Sponsor: Bloomington Off/Emergency Mgmt
Daniel J. Royer (952) 888-9756
Email: dandroyer@gmail.com
www.Bloomington-VE.org

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Location: City Hall-Police Department
1800 W Old Shakopee Rd
Bloomington MN 55431

June 26, 2018 Monday 6:00 PM

Sponsor: SMARTS
Dale A. Blomgren (952) 402-2155
Email: kdzerob@aol.com
Location: Carver County Library
7711 Kerber Blvd
Chanhassen MN 55317
Walk-ins allowed, Pre-reg requested

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Monday Evening 7PM

The Scott ARES net meets every Monday evening at 7:00 PM either on 146.535 simplex or on the first Monday of the month the WBORMK repeater 147.165 (PL 107.2).

The net is in a directed net format and provides the opportunity to practice working in an emergency net style.

There is help available in setting up and using NBEMS digital messaging software and generally a weekly digital message for practice.

Everyone is welcome to check in and contribute two cents worth!



ARES Breakfast

Saturday
June 9th 2018
7:30AM

Hy-Vee Market Grille,
6150 Egan Dr, Savage, MN

NECOS Schedule May 2017

The first Monday or the month the net is held on the WBORMK repeater, Carver. You will find WBORMK here: 147.165/765 PL 107.2

Date NECOS _____

May 28th N0BHC Bob

June 2018

Jun 4th WA0DGW John- First Mon. Net

Jun 11th KD0UWZ Chad

Jun 18th N0BHC Bob

Jun 25th WA0DGW John

July 2018

Jul 2nd KD0UWZ Chad - First Mon. Net

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