



# ARES COMMUNICATOR

## Information for Scott County Amateurs



December, 2015

Accurate, Reliable Emergency Communications for our Community Volume 15, Number 12

### ST PAUL RADIO CLUB ANNUAL AUCTION

Saturday, January 30th, 2016

8:30 a.m. to 1 p.m.

Need an excuse to take a mid-winter break and chase the cabin fever? Plan to take in the St. Paul Radio Club's auction and benefit a great cause.

The goal of the auction is to raise funds in support of the ARRL Spectrum Defense Fund. The net amount collected by the St. Paul Radio Club at the auction will be donated to the Fund!

The Amateur radio Relay League, ARRL, has maintained constant vigilance to protect the frequencies allocated to amateur radio operators. The ARRL has taken decisive action throughout the years, including:

- \* Defeating the threat that Little Leo satellites posed to the 2-meter and 70-cm bands;
- \* Removing high-powered international broadcasting stations from the heart of the 40-meter band
- \* Working with the IA RU to gain global allocations at 135 kHz and 472 kHz
- \* Battling the Broadband Over PowerLine interference for six years successfully challenging the FCC in court on its prejudice that tainted the rulemaking process
- \* Defending microwave allocations against commercial wireless broadband;
- \* Seeking an international allocation at 60 meters (5 mHz).

Contributions to the Spectrum Defense Fund ensures that ARRL will have the resources to meet future challenges when they appear and to protect your operating privileges.



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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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Reader submissions encouraged!

The auction site is Our Lady of Guadalupe Catholic Church, 401 Concord Street, Saint Paul, MN. You can find maps to the location at the Church's web page at: [www.archspm.org/places/places-detail.php?intResourceID=1411](http://www.archspm.org/places/places-detail.php?intResourceID=1411)

Doors open at 8:30 for equipment check in, Sale will start at 9:30. Talk-in, for information and directions, is available on Magic Repeater, 145.17 – 100 Hz tone, the day of the event.

The St. Paul Radio Club offers the sellers an option of listing equipment for the live auction or a silent auction for the smaller or less important items.

If you have any questions about the auction, please contact Dale Maroushek, at [n0pey@arrl.net](mailto:n0pey@arrl.net) or evenings at 651-777-5309.

FOOD will be available! The club will be selling coffee and pastries, hot dogs and chips, pop and water. Lisa's Sweets hopefully will be available at the auction as well.

BREAK - OVER



### ARES Activities

Weekly Net Monday 7 PM 146.535 mhz (s)

Breakfast Saturday, January 9th

Digital Monday, January 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

## FCC Revamps Website

ARRL Letter - Nov 24, 2015

The FCC has announced that its large-scale website redesign will be completed by December 10. The switch to the new site is set to begin on December 10 at 0100 UTC and will be completed about 4 hours later.

“While the transition to the revamped site is expected to be completed almost instantaneously, there will be an ongoing process following this transition that will continue to involve user feedback, fixes by the FCC’s Information Technology team, and content updates by policy bureaus and offices,” the FCC said in a November 24 Public Notice.

The FCC said the new website has been designed to provide “better functionality, an improved design, and better searchability and navigability.” Earlier this year the Commission’s IT Department opened a beta-test version of the site and has been gathering user comments.

“Extensive user research revealed how the FCC could improve the website’s information architecture to make content easier to

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find,” the Public Notice said. The FCC said its new website has been designed to operate on tablet and mobile device browsers with the display optimization based upon the device. The site utilizes a “toggle” navigation that allows visitors to browse either by “Category” or “Bureau and Office.”

When the new site comes online, the familiar current FCC website will no longer be available. The FCC said web pages and files on [transition.fcc.gov](http://transition.fcc.gov) that have not already migrated to the new site will remain available, and existing bookmarks will be redirected to the appropriate content on the new site. While the Commission has already upgraded some of its interactive systems, including the Consumer Help Center, and is working toward improvements on similar systems, including the Electronic Comment Filing System (ECFS), these systems will not be directly impacted by the December 10 migration.

“This migration will impact the look and functionality of web pages that are coded in HTML and managed through a content management system, such as the homepage and individual bureau pages,” the FCC Public Notice said. The FCC said the change to a new website design was, in part, driven by a need to start using a more modern, open-source content management system to upgrade the site’s look and architecture, and to transition to a system that is compatible with the latest website innovations.

FCC Chief Information Officer David Bray has written blog posts about the website development process, and the beta site has been publically available and soliciting feedback since April. Two additional public outreach sessions will be held before the December 10 changeover to explain the new site and its functionality to interested stakeholders.

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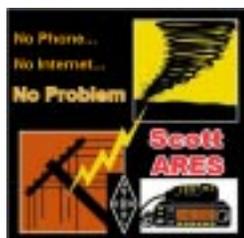
### Scott County ARES Contacts

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Assistant Emergency Coordinator  
Chad Palm KD0UWZ  
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KD0UWZ at [scottares.org](http://scottares.org)



## 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](mailto:newhaminfo@scottares.org)

The hams in Scott ARES gather for breakfast the first Saturday of the month at the Perkins Restaurant in Savage. Bring your 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.arrrl.org/exam\\_sessions/search](http://www.arrrl.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!

### December 28, 2015 Monday 6:00 PM

SMARTS

Dale A. Blomgren (952) 402-2155

Email: [kd0b@arrrl.net](mailto:kd0b@arrrl.net)

Location: Carver County Library

7711 Kerber Blvd

Chanhassen MN 55317

Walk-ins allowed, Pre-reg requested

### January 09, 2016 Saturday 10:00 AM

St Paul Radio Club

Leon H. Dill (651) 688-9964

Email: [w0coe@arrrl.net](mailto:w0coe@arrrl.net)

Location: Ramsey Co Library Maplewood

3025 Southlawn Dr

Saint Paul MN 55109-1577

Walk-ins allowed

BREAK - OVER

# Seasons Greetings



## 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 is the maximum symbol rate permitted for RTTY or data emission transmitted on the 1.25 meter and 70 centimeter bands
  - A. 56 kilobaud
  - B. 19.6 kilobaud
  - C. 1200 baud
  - D. 300 baud
2. Which of the following is a requirement for administering a Technician Class operator examination?
  - A. At least three VEC accredited General Class or higher VEs must be present
  - B. At least two VEC accredited General Class or higher VEs must be present
  - C. At least two General Class or higher VEs must be present, but only one need be VEC accredited
  - D. At least three VEs of Technician Class or higher must be present
3. When may a 10 meter repeater retransmit the 2 meter signal from a station having a Technician Class control operator?
  - A. Under no circumstances
  - B. Only if the station on 10 meters is operating under a Special Temporary Authorization allowing such retransmission
  - C. Only during an FCC declared general state of communications emergency
  - D. Only if the 10 meter repeater control operator holds at least a General Class license

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

## November General Pool Answers

1. Who or what determines "good engineering and good amateur practice" as applied to the operation of an amateur station in all respects not covered by the Part 97 rules?
  - A. The FCC
2. What is the maximum symbol rate permitted for RTTY or data emission transmitted at frequencies below 28 MHz?
  - D. 300 baud
3. How should the transceiver audio input be adjusted when transmitting PSK31 data signals?
  - B. So that the transceiver ALC system does not activate

## Test Your NIMS Knowledge

This month we will begin our review of ICS-800: National Response Framework. The purpose of the National Response Framework is to ensure that all response partners across the Nation understand domestic incident response roles, responsibilities, and relationships in order to respond more effectively to any type of incident. The Framework focuses on response and short-term recovery instead of all of the phases of incident management.

- Check your recall of the course material with this question. The State Coordinating Officer is:
  - A. Assigned by the FEMA Regional Administrator to expedite the delivery of needed services to a State.
  - B. Appointed by the Governor to coordinate State disaster assistance efforts with those of the Federal Government.
  - C. Deployed through the Emergency Management Assistance Compact to coordinate State-to-State mutual aid and assistance.
  - D. Selected by the chief elected officials in impacted jurisdictions to interface with the State officials during the incident response

*Check next month's ARES Communicator for the solution*

## November NIMS Knowledge Solution

Whose duties include operation of the National Response Coordination Center, the effective support of all Emergency Support Functions, and, more generally, preparation for, protection against, response to, and recovery from all-hazards incidents?

- D. FEMA Administrator

## NBEMS Current Versions

The current version of the Fldigi manual is available at NBEMS Info page at [www.scottares.org](http://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/download.html](http://www.w1hkj.com/download.html) and <http://www.scottares.org/NBEMS.htm>

Here are the most recent releases as of November 10, 2015.

Software	Version
Fldigi	3.23.04
Flwrap	1.3.4
Flmsg	2.0.12
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.



## Chip Smoking

A new chip built on strained glass can shatter within 10 seconds when remotely triggered. It's not quite as fast as the fictional Mission: Impossible messages that self-destruct in five seconds, but such vanishing electronics could prove tremendously useful for the U.S. military and corporations by keeping data secure and out of unwanted hands.

The new chip was developed by Xerox PARC for the U.S. Defense Advanced Research Projects Agency (DARPA) and went on display at a DARPA technology forum last week, according to the IDG News Service. Engineers fabricated the chip on Corning Gorilla Glass, the material used in the displays of many smartphones. But it's a strained version of the glass that makes it susceptible to heat. A self-destruct circuit triggered by laser light activates a resistor that heats the chip to the point of shattering into many tiny fragments.

A chip of this type represents a potentially big step forward for DARPA's Vanishing Programmable Resources initiative. That program previously awarded a \$3.45 million contract to IBM for the purpose of creating a similar self-destructing chip made on "strained glass substrates," according to Information Week.

DARPA's goal for the program goes as follows: The Vanishing Programmable Resources (VAPR) program seeks electronic systems capable of physically disappearing in a controlled, triggerable manner. These transient electronics should have performance comparable to commercial-off-the-shelf electronics, but with limited device persistence that can be programmed, adjusted in real-time, triggered, and/or be sensitive to the deployment environment.

The recent chip demonstration relied upon the laser triggering a photo diode, which switched on the self-destruct circuit. Previous research by the U.S. Air Force Institute of Technology has also considered using a tiny resistor heater that could cause critical circuits to self-destruct to prevent reverse-engineering. But IDG News Service pointed out that future versions of the chip could use mechanical switches or radio signals as triggers.

The broader idea of vanishing or transient electronics has promise beyond battlefields or data security. On the health and medical side, John Rogers, a materials science professor at the University of Illinois, has developed a wide variety of biodegradable electronics and sensors that are compatible with both the human skin and body organs.

Electronics capable of dissolving into relatively harmless components could also eventually begin to reduce the huge "e-waste" problem of used and broken electronics being dumped in the developing world.

The DARPA initiative might eventually benefit those broader applications as well. But the latest Xerox PARC demonstration suggests a deliberately controlled, self-destructing chip that wouldn't simply wait to slowly dissolve in the open environment or in the human body.

## Industrial-chic Alarm Clock

Christmas shopping for the electrical engineer who has everything? Well, chances are they don't have the Voltmeter Alarm Clock. Made by novelty electronics manufacturer Awkward Engineer, it looks like a vintage analog voltmeter, except it displays hours and minutes instead of volts and amps. Headed by entrepreneur Sam Feller, Awkward Engineer previously had success with its Kickstarter-funded Voltmeter Clock. Now, the company has added an alarm function, which is set using a toggle switch (with a snazzy red safety cover) on the side.



The device also features a custom-designed Atmel ATtiny microcontroller-based circuit board, an AM/PM indicator LED, an optional backlight on its display, and mode-select knobs on top. It's powered by a USB cable, which can be plugged into a conventional outlet using an included "wall wart" adapter.



Its sheet metal body is being made in two glorious color choices: olive drab and industrial grey.

The Voltmeter Alarm Clock is now available for preorder, priced at US\$169 without the back light or \$189 with it. That said, a 30 percent discount is currently being offered. Shipping is scheduled to start next April or May. [www.awkwardengineer.com/collections/stuff/products/awk-105-al-analog-voltmeter-alarm-clock](http://www.awkwardengineer.com/collections/stuff/products/awk-105-al-analog-voltmeter-alarm-clock)

BREAK - OVER

## Festivus

It's for the Rest of Us!

December 23 rd

The Origin of Festivus

Festivus came into being as the direct result of a Jerry Seinfeld television show episode. It first aired on December 18, 1997. The holiday was promoted by Kramer (who else!?) The Festivus holiday was created by Seinfeld show scriptwriter Daniel O'Keefe. His dad, also named Daniel, had found reference to an obscure holiday called Festivus, which was first celebrated in 1966.



Festivus Traditions:

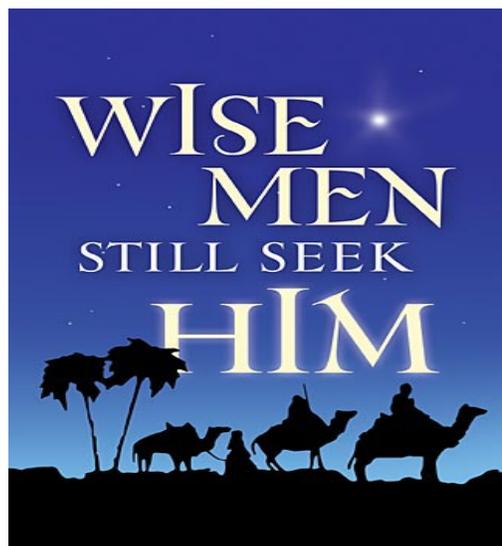
No, there isn't a Festivus Tree. Rather, an unadorned aluminum pole is the symbol of Festivus.

The Festivus holiday is celebrated with a dinner. Meatloaf is the suggested main course (I betcha can't wait for a slice of that!).

Dinner is followed by a "Feats of Strength".

Another popular Festivus tradition, is an "Airing of Grievances". This is where you can tell someone how disappointed you are over what they did or didn't do during the past year.

BREAK - OVER



## Grid Attack Exercise Tests Response

A simulated widespread enemy attack on the North American electric power network in November created a disaster scenario, challenging grid operators to repel coordinated cyber intrusions and assaults on grid installations by heavily armed terrorist squads and rogue drones. Under this practice scenario, meant to point to any major vulnerabilities, millions of Americans were facing long-term power outages in a nationwide crisis.

“It breaks the system pretty severely,” said Gerry Cauley, president and chief executive of the North American Electric Reliability Corp., which designed and ran the GridEx III exercise.

Some 350 utilities, government agencies and other organizations, and an estimated 10,000 participants were engaged Wednesday in the non-public training exercise, playing out the “war game” scenarios on secured Internet channels.

A second exercise required industry chief executives and federal agency leaders to arrange transfers of massive spare grid transformers around the country to replace units destroyed in the “attacks.”

In a briefing for reporters, Cauley did not pinpoint any major problems requiring immediate new responses. He said a detailed report on lessons learned could be ready in January. The exercise indicated that despite accelerating investments in new grid defenses, a worst-case attack could leave parts or all of some cities temporarily uninhabitable. However, an event of such magnitude would take a coordinated physical and cyber attack on a scale that would be “very rare and very difficult,” Cauley said.

“There were very serious events occurring in a simulated fashion on the grid, including attacks; cyberattacks on corporate computers and systems; attacks on communications systems; infiltration of control systems, relays and controls in substations and power plants; as well as physical attacks in terms of explosive and shooting,” Cauley said.

The exercise tested teamwork among utilities, federal agencies and local law enforcement, which has suffered in certain instances because of communications gaps and incomplete planning, according to experts. Despite repeated attempts, Congress has not been able to agree on legislation to strengthen threat information sharing.

The second day of the exercise yesterday centered on industry and government collaboration in restoring electrical service. “We get an opportunity to demonstrate the working partnership we have established and the ... trust we’ve built between industry and government,” Cauley said.

“This GridEx exercise is an opportunity for our federal partners to interact with industry and hopefully test communications channels, push information products, and evaluate how to better get key information into the hands of grid operators,” Navigant’s Harrell said in an email comment.

The industry wants more and better sharing and analysis of threat information. It remains to be seen how well government agencies can respond, he added. “Cybersecurity response and information sharing with federal partners continues to be a learning process.”

Cauley said that communications issues have improved over the past two years, but he added, “it’s always striving to get to the next level because I don’t think we are declaring a victory.” “We are going to find ways to work effectively together,” said Deputy Energy Secretary Elizabeth Sherwood-Randall.

Fanning said that collaboration “is going to be a never-ending saga.”

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**ARES Breakfast**  
Saturday January 9th  
7:30AM  
Perkins Restaurant  
Savage, MN

## NECOS Schedule December 2015

The first Monday or the month the net is held on the WB0RMK repeater, Carver. You will find WB0RMK here: [147.165/765 PL 107.2](http://147.165/765 PL 107.2)

### December

**Dec 21** N0BHC Bob

**Dec 28** KB0FH Bob

### January

**Jan 4** WA0DGW John

**Jan 11** KC0YHH Tony

**Jan 18** KD0UWZ Chad

**Jan 25** KB0FH Bob