



# ARES COMMUNICATOR

Information for Scott County Amateurs



June, 2018

Accurate, Reliable Emergency Communications for our Community

Volume 18, Number 6

## Field Day 2018

June 23rd - 24th

What is ARRL Field Day? Field Day is a picnic, a campout, practice for emergencies, an informal contest and, most of all, FUN!

ARRL Field Day is the single most popular on-the-air event held annually since 1933 in the US and Canada. On the fourth weekend of June of each year, more than 40,000 radio amateurs gather with their clubs, groups or simply with friends to operate from remote locations.

This year, many groups and participants may choose to combine 2018 Field Day with our yearlong operating event, 2018 ARRL International Grid Chase (IGC), working stations in as many grid squares as possible and uploading log data to ARRL's Logbook of The World (LoTW).



It is a time when many aspects of Amateur Radio come together to highlight our many roles.

While some will treat it as a contest, other groups use the opportunity to practice their emergency response capabilities. It is an excellent opportunity to demonstrate Amateur Radio to the organizations that Amateur Radio might serve in an emergency, as well as to the general public. For many clubs, ARRL Field Day is one of the highlights of their annual calendar.

The contest part simply involves contacting as many other stations as possible while learning to operate our radio gear in abnormal situations and less than optimal conditions.

Field Day cont'd on page 2

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

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## AERO 101 Offered

June 20th

Intro to Emergency Communications

AERO (Association of Emergency Radio Organizations) will be conducting the "AERO 101: Introduction to Emergency Communications" course on Wednesday June 20th from 6:00 pm to 10:00 pm in St. Paul, MN. The cost is free! The session will be held at: Emergency Management and Homeland Security, 90 West Plato Blvd. Suite 220, St. Paul, MN 55107.

To register or for additional information contact Dave: dave@n0kxbd.com

The AERO 101 course provides a good introduction to the nuts and bolts of emergency communications. Scott ARES expands on these basics in directed net operation procedures and practices.

The following courses will be mandatory for any amateur radio operator involved in a response utilizing the Communications Function within ICS in Minnesota:



AERO 101 cont'd on page 3

## ARES Activities

Weekly Net Monday 7 PM 146.535 mhz (s)

Breakfast Saturday, July 14th

Digital Monday, July 16th

### 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

## Field Day - cont'd from page 1

We use these same skills when we help with events such as marathons and bike-a-thons; fund-raisers such as walk-a-thons; celebrations such as parades; and exhibits at fairs, malls and museums—these are all large, preplanned, non-emergency activities.

But despite the development of very complex, modern communications systems—or maybe because they ARE so complex—ham radio has been called into action again and again to provide communications in crises when it really matters. Amateur Radio operators (also called “hams”) are well known for our communications support in real disaster and post-disaster situations.

Where is all this fun happening? Use the ARRL Field Day Locator at: [www.arrl.org/field-day-locator](http://www.arrl.org/field-day-locator) to find a Field Day site close to you. Check it out and join the fun!

BREAK - OVER



### Scott County ARES Contacts

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952-894-5178  
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Asst Emergency Coordinator  
Chad Palm KD0UWZ  
Chaska, MN  
KD0UWZ at [scottares.org](http://scottares.org)



## 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. Select the statement below that best describes one benefit of NIMS.

A. Establishment of standardized organizational structures that improve integration among jurisdictions and disciplines.

B. Funding for additional staff and other resources to address operations that are not NIMS compliant.

C. Creation of a comprehensive tactical plan for operational incident management that can be used for every incident.

D. Development of comprehensive strategies for addressing the management of international events.

Check next month's ARES Communicator for the solution

## May NIMS Knowledge Solution

1. Homeland Security Presidential Directive 5 (HSPD-5) requires all Federal departments and agencies to:

B. Make adoption of NIMS by State, tribal, and local organizations a condition for Federal preparedness assistance (through grants, contracts, and other activities).

BREAK - OVER



A couple went to Hawaii for their honeymoon. Unfortunately, the husband returned home alone because his wife had died in a horrible boating accident. The police contacted the travel agent he booked the trip with and arrested him for murdering his wife. How did they know he did it?

## 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/](http://www.w1hkj.com/) and [www.scottares.org/NBEMS.htm](http://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.



## ARES Connect Update

### Dayton Hamvention

Change is in the works in emergency communications! The American Radio Relay League, ARRL, Board of Directors commissioned a group to examine the structure and function of amateur radio in response to emergency communications support for agencies involved in disaster response. The committee has issued its report and the recommendations are being implemented by the ARRL. The ARRL continued the process of informing the ARRL members of the changes with a presentation at the Dayton Hamvention in May.

How will this affect amateur radio response? The response remains a **local** response. The Amateur Radio Emergency Service, ARES, support structure is being changed slightly to align the organization structure with the National Incident Management System (NIMS), Incident Command System (ICS).

In keeping with the principles of the ICS, the local Emergency Coordinator leads the response team with support from the District Emergency Coordinator and the Section Emergency Coordinator.



ARES Connect is a new tool that has been developed to address several areas that needed improvement.

**Reporting** - The accurate, complete reporting of individual activity and time is a very important factor in evaluating the effectiveness of the ARES program. The ARES Connect streamlines this data collection making it easier for the individual ARES volunteer to self-report their participation.

**Memberships** - The Connect system provides a picture of the volunteer resources available at various levels in managing the personnel to respond to an emergency.

**Database** - The ability to catalogue the training and activity provide valuable information for planning training and exercise activity. The flexibility of having this information in a single database is more efficient.

**Statistics** - The consolidated reporting of activity will provide a more complete and accurate picture of ARES activity for all levels of the ARES organization.

That gives you an idea of the organizational tweaks made to improve ARES effectiveness. Next month we'll take a look at the revised training objectives.

BREAK - OVER

## Flag Day

### A Brief History of Flag Day



On June 14, 1777, Continental Congress adopted the American Flag in the First Flag Act. They declared: "That the flag of the United States shall be of thirteen stripes of alternate red and white, with a union of thirteen stars of white in a blue field, representing the new constellation."

Over 100 years later, in 1885, a small-town Wisconsin teacher named Bernard Cigrand came up with the idea of an annual flag birthday to be celebrated every June 14. He lobbied Congress for years to celebrate it as a national holiday. He is sometimes called the "Father of Flag Day." In the following years, many schools and communities observed their own flag celebrations. On May 7, 1937, Pennsylvania became the first state to establish Flag Day as a legal holiday, a recognition that Pennsylvania holds today.

Both President Wilson, in 1916, and President Coolidge, in 1927, issued proclamations asking for June 14 to be observed as the National Flag Day. But it wasn't until August 3, 1949, that Congress approved the national observance, and President Harry Truman signed it into law.

The U.S. government encourages its citizens to display Old Glory outside of their homes and businesses. Today is a day of reflection as we consider the sacrifices our ancestors made and consider how we might carry on their work so that our children and grandchildren may live in the freedom the Stars and the Stripes majestically proclaim.

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## AERO 101 - cont'd from page 1

AERO 101: Introduction to Emergency Communications

AERO 102: Advanced Emergency Communications

AERO 201: Introduction to Net Control

AERO 202: Advanced Net Control

Optional course: AERO 103: Introductions to Data Communications.

Questions on the various courses should be directed to:  
ryc.lyden@gmail.com

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## STEM Rover Project

### AZ STEM Planetary Rover Project is a Winner

An Amateur Radio-based science, technology, engineering, and mathematics (STEM) initiative at an Arizona elementary school culminated on May 22, as youngsters competitively deployed their own radio-controlled rovers to explore a simulated planet set up in the Sonoran Desert. Following in the footsteps of NASA scientists, 25 pupils at Bouse Elementary School — several already holding ham radio licenses — took part in the APS Arizona Rover Project, which is aimed at promoting STEM subjects through Amateur Radio and preparing young participants to earn an Amateur Radio license.

“It was awesome!” said Dave Anderson, K1AN, the president of My La Paz, which sponsored the project in cooperation with Arizona Public Service (APS) and community volunteers. The nonprofit My La Paz promotes health, education, and community in La Paz County. “The youth all had the chance to explore the artificial planet, the event was well attended, and the radio links for remote control and video were rock solid.”

The APS Arizona Rover project was part of a 5-month-long in-curriculum education program at Bouse Elementary that Anderson hopes to expand to other schools in La Paz County.

“Its primary goal was to lift up and inspire the youth into science and learning via instruction and exploration of radio science, Amateur Radio, and space research,” Anderson told ARRL. “The goals of the program were to deliver science instruction that met and exceeded Arizona Common Core educational guidelines and to help the youngsters prepare to attain their Amateur Radio licenses.”

Anderson said 23 students got their Technician licenses while also learning and developing electronic circuits, breadboarding, and more within the school day.

Leading up to launch day, participants were challenged to complete different missions using only Amateur Radio technology for remote control, data, and video feeds. In a matter similar to what the Mars Rover scientists do, the students had to complete these missions from a remote location without actually being able to see their robots. Rovers competed in several categories. These included completing specific objectives remotely from mission control and safely returning to their landing vehicle in an allotted time using only a computer interface with their Amateur Radio.

Anderson said first-place winners in their respective categories included Eliyah Jagroop, KI7IZL; Christena Baker, KI7WOI, and Savannah Holden.

Seven radio amateurs mentor in the youth-led Arizona Amateur Radio Association <[www.azara.org/](http://www.azara.org/)>. In addition to Anderson, they include Joe Lewellen, K7JEL; Daryl Duffin,

*cont'd col. 2*

## 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)



*cont'd from col. 1*

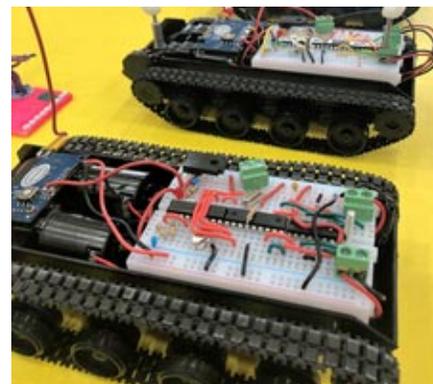
NU7X; Neil Hays, W6FOG; Alexander Fulcher, N4SVD; Pat Delong, KD7KEL, and Heather Caton, W8GEM, an educator who teaches Amateur Radio in the schools as part of the curriculum.

A unique facet of My La Paz is its focus on Amateur Radio, Anderson said, because of what it can offer the county's young people in sparsely populated La Paz County, where many families live at the poverty level.

“In many ways, Amateur Radio has become the students' first social media, since many of their homes have no computers or internet access,” he told ARRL. “It no longer matters where a youth lives or their family income; they can now participate in learning opportunities or making new social connections and friends via the Desert Amateur Radio network.” The number of youngsters now licensed across La Paz County is approaching 100.

“The students of this generation are fascinated by space exploration and robotics,” Anderson said. “And the rover project provides a way to let them explore this with radio science and be inspired into learning while making science fun.”

Anderson said more information, including a rover block diagram, schematics, parts list/sources, and source code, is available on the AZARA website <[www.azara.org/aps-arizona-rover.html](http://www.azara.org/aps-arizona-rover.html)>.



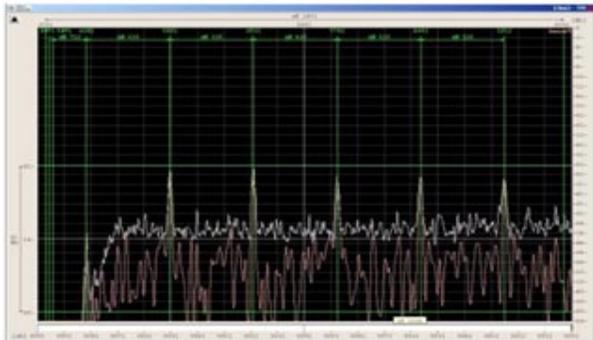
## 10 Meter Interference

### Iranian Radars Showing Up

ARRL Letter

While 10 meters has not been the hottest band in the Amateur Radio toolkit of late, Iran apparently has found it an ideal spot to operate various radars. The interference was audible in International Amateur Radio Union Region 1 (IARU R1) and perhaps elsewhere in the world.

“Iranian radars were very active on our 10-meter band every day [in May],” reported IARU Monitoring System (IARUMS) Coordinator for Region 1 Wolf Hadel, DK2OM, in the IARUMS newsletter. “On 28.860 MHz, we could daily receive the strong and long-lasting signals. Other frequencies were used in [frequency hopping] mode.”



A screen shot of the Iranian radar signals appearing on 10 meters in IARU Region 1 and possibly elsewhere.

The list of additional Amateur Radio intruders on 10 meters included — or in some cases, no longer included — some of the usual suspects. Hadel reported that FM signals from Russian taxi dispatchers, driftnet fishery buoys, and Citizens Band “abusers” in Brazil have been operating on various 10-meter frequencies, “as usual.”

Meanwhile, some chronic intruding signals have disappeared. Among the missing is the 14,295 kHz harmonic from Radio Tajik on 4,765 kHz. Radio Hargeysa in Somaliland on 7,120 kHz is said to have been off the air for several weeks due to a transmitter failure. “We did not miss the transmissions,” quipped Hadel, who also expressed the hope that the broadcast battle between Radio Eritrea and Radio Ethiopia on 40 meters may now be at an end. For some time now, Radio Eritrea contended with Ethiopian “white noise” interference on 7,140 and 7,180 kHz. This month, Ethiopia announced that it would accept a peace deal with Eritrea to end a bloody 20-year-old dispute.

Hadel reported a “hybrid modem” signal for a few days in May on 14.000 MHz from the Israeli Navy, consisting of six pre-carriers — PSK4 parallel and MIL-188-110A modified. Just below 20 meters, on 13.998.0 MHz, transmissions of MFSK-16 from Russia were observed on May 31. The signal was heard up to 14.001.165 MHz in the amateur band.

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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

### Fun With Tubes

<http://www.angelfire.com/electronic/funwithtubes/>

This a noncommercial site operated by Max Robinson and dedicated to passing on and preserving knowledge of vacuum tube circuits and techniques. Keep the electrons flowing and the tubes glowing. Interesting browsing - and you might accidentally learn something - or refresh the array.

### The Solder Scope

<http://www.qsl.net/k9ac/solderScope.html>

A version of this article appears in QRP Quarterly, April 2018. ([www.qrparci.org](http://www.qrparci.org)) Wide-field low power magnification is a “Must Have” for soldering surface mount electronic components. Now there is an inexpensive alternative to pricy commercial microscopes.

### Idle-Tyme

<http://www.idle-tyme.com/>

The title pretty much says it all. The original rolling ball clock. Check out the website and see how it is done with bowling balls!

### Hackaday

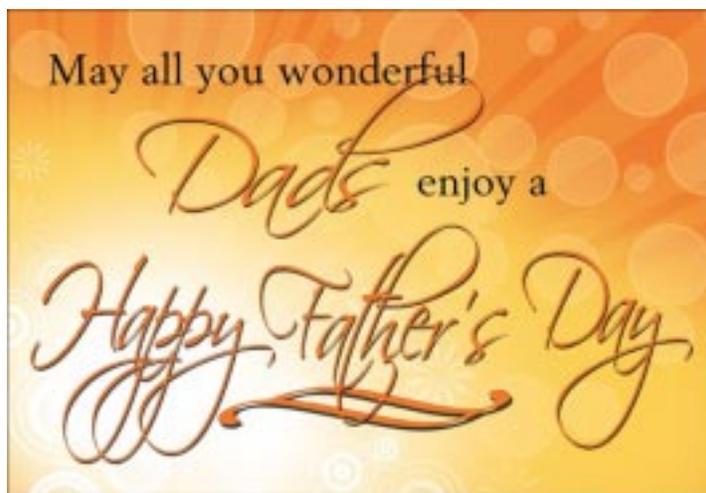
<https://hackaday.com/>

Hackaday serves up Fresh Hacks Every Day from around the Internet. Our playful posts are the gold-standard in entertainment for engineers and engineering enthusiasts.

We are taking back the term “Hacking” which has been soured in the public mind. Hacking is an art form that uses something in a way in which it was not originally intended. This highly creative activity can be highly technical, simply clever, or both. Hackers bask in the glory of building it instead of buying it, repairing it rather than trashing it, and raiding their junk bins for new projects every time they can steal a few moments away.

Check out the newsletter subscription ink.

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## WB6ACU Cuts PSAs!

### Eagles Guitarist Joe Walsh

#### ARRL Letter

Legendary rock guitarist Joe Walsh, WB6ACU, of the Eagles is featured in a just-released set of ARRL audio and video public service announcements < [www.arrl.org/public-service-announcements](http://www.arrl.org/public-service-announcements) > promoting Amateur Radio.

ARRL will provide the 30- and 60-second PSAs to Public Information Officers (PIOs) to share with their Section's television and radio stations. The ARRL Media and Public Relations Department also will provide these announcements files directly to interested television and radio outlets, and the announcements are available for downloading from the ARRL website for members to use in promoting Amateur Radio at club meetings and public presentations, such as ARRL Field Day on June 23-24 (PSAs specifically for ARRL Field Day also are available).

Those PSAs will also be available for download from the ARRL website, so that members can present them at club meetings and other public gatherings.

Walsh, who visited ARRL Headquarters last year for taping, wanted to deliver two main messages in his PSAs: Get involved in Amateur Radio, and become a member of ARRL. The messages highlight the tremendous service that radio amateurs provide to communities, and convey how ARRL advocates on behalf of Amateur Radio on a wide range of legal and political issues.

An ARRL Life Member and longtime radio amateur, Walsh personally has been a strong supporter and advocate of ARRL and Amateur Radio, and his ham shack is just as impressive as his home recording studio. "I want to give back to the hobby that has given me so much enjoyment," he said.

The setting for the PSAs was W1AW, which Walsh was especially eager to revisit. The occasion also offered him an opportunity to see equipment he'd donated to W1AW years earlier. Walsh's past on-the-air forays on W1AW have always attracted enthusiastic pileups. While at W1AW, he spent some chatting with station manager Joe Carcia, NJ1Q, about the station's operations. Walsh is a well-known collector of vintage Amateur Radio equipment.

Creating the videos were Media and Public Relations Assistant Michelle Patnode, KC1JTA; freelance videographer/photographer Chris Zajac, and former Media and Public Relations Manager Sean Kutzko, KX9X, who also recorded a tag line for *ARRL Audio News* with Walsh.

Tips for getting audio PSAs on the air are available on the PSA for promotions web page < [www.arrl.org/placing-audio-psas](http://www.arrl.org/placing-audio-psas) >.

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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 is the equivalent capacitance of two 5000 picofarad capacitors and one 750 picofarad capacitor connected in parallel?  
A. 576.9 picofarads  
B. 1733 picofarads  
C. 3583 picofarads  
D. 10750 picofarads
2. What is the inductance of three 10 millihenry inductors connected in parallel?  
A. .30 Henrys  
B. 3.3 Henrys  
C. 3.3 millihenrys  
D. 30 millihenrys
3. Why would it be important to minimize the mutual inductance between two inductors?  
A. To increase the energy transfer between circuits  
B. To reduce unwanted coupling between circuits  
C. To reduce conducted emissions  
D. To increase the self-resonant frequency of the inductors

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

BREAK - OVER



The travel agent revealed that he had only booked a one-way ticket for his wife.



## May General Pool Answers

1. What would be the RMS voltage across a 50-ohm dummy load dissipating 1200 watts?  
B. 245 volts
2. What is the total resistance of three 100-ohm resistors in parallel?  
C. 33.3 ohms
3. Which of the following describes a thermistor?  
B. A device having a specific change in resistance with temperature variations

BREAK - OVER

## 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 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](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!

### June 23, 2018 Saturday 8:45 AM

Sponsor: Bloomington Off/Emergency Mgmt

Daniel J. Royer (952) 888-9756

Email: [dandroyer@gmail.com](mailto:dandroyer@gmail.com)

[www.Bloomington-VE.org](http://www.Bloomington-VE.org)

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](mailto:kdzerob@aol.com)

Location: Carver County Library

7711 Kerber Blvd

Chanhassen MN 55317

Walk-ins allowed, Pre-reg requested

### July 11, 2018 Wednesday 7:00 PM

Sponsor: VARC

James C. Rice (612) 384-7709

Email: [jrice@danpatch.org](mailto:jrice@danpatch.org)

Location: Perkins Restaurant & Bakery

17387 Kenyon Avenue

Lakeville MN 55044-4459

Walk-ins allowed, Pre-reg requested

### July 21, 2018 Saturday 9:00 AM

Sponsor: SEMARC

Daniel M. Franz (651) 769-0358

Email: [wd0gup@hotmail.com](mailto:wd0gup@hotmail.com)

Location: Zion Lutheran Church

8500 Hillside Trail South

Cottage Grove MN 55016

Walk-ins allowed, Pre-reg requested

cont'd from col. 1

### July 30, 2018 Monday 6:00 PM

Sponsor: SMARTS

Dale A. Blomgren (952) 402-2155

Email: [kdzerob@aol.com](mailto: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

July 14th 2018

7:30AM

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

## NECOS Schedule June 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 \_\_\_\_\_

Jun 18th N0BHC Bob

Jun 25th WA0DGW John

July 2018

Jul 2nd KD0UWZ Chad - First Mon. Net

Jul 9th N0BHC Bob

Jul 16th WA0DGW John

cont'd col. 2