



# ARES COMMUNICATOR

Information for Scott County Amateurs



March, 2017

Accurate, Reliable Emergency Communications for our Community

Volume 17, Number 3

## Spring Training Ending!

### Time is running out for Spotter Training

If you did not attend class last year, in order to remain a spotter, you must attend a class this year. This is a National Weather Service requirement.

Don't delay attending as those last few classes get very full. Spotters are encouraged to pre-register for the class session of your choice. Do not print tickets. This pre-registration helps trainers plan for copies, etc. We always keep a few spots open for walk ins but don't press your luck!

If you have any questions about training, please email [Training@MetroSkywarn.org](mailto:Training@MetroSkywarn.org).

A list of remaining southern Twin City training locations is below.

Please review the specific webpage calendar for any special registration requirements. Walk-ins are available for most classes, but pre-registration is encouraged.

If you would like to review the slide presentation used in training: <https://metroskywarn.org/spotter-resources/nws-training-presentation>.

Don't miss the 2017 Annual Spotters Report available on-line at: <https://metroskywarn.org/documents/2017-annual-spotter-report>



Skywarn Training *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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## Breakfast!

Saturday, April 8th

A Whole New Meal

The first Saturday morning of the month means it is time to get together for breakfast, coffee and good conversation with friends in Scott ARES.

The gathering has taken place at the Perkins Restaurant in Savage for many years with lots of good food and conversation. The breakfast in April will be held at a new location: Hy-Vee Market Grille, 6150 Egan Dr, Savage, MN Phone: (952) 228-2562. A phone call to the restaurant reveals they open at 6:00AM on Saturday and feature a full breakfast menu.

If you haven't met for breakfast for a while or want to check out the newest restaurant in Savage, why not stop by on Saturday, April 8th around 8:00AM and join the fun!

Scan the code for a map to the Market Grille.

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## ARES Activities

Weekly Net Monday 7 PM 146.535 mhz (s)

Breakfast Saturday, April 8th

Digital Monday, April 10th

### 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

## Spotter Training - cont'd from page 1

Catch one of these last scheduled sessions!

**Thurs 4-6-17 6 PM-10 PM, Richfield**  
Richfield CERT and Richfield Amateur Radio Club  
Richfield Municipal Center  
Bartholomew Room  
6700 Portland Avenue, Richfield, MN,  
Facility info::Grant at [cert@gartlandmn.com](mailto:cert@gartlandmn.com),  
40 Walk ins welcome, To pre-register: <https://metroskywarn.org/class-schedule>..

**Sat 4-29-17 9 AM - 1 PM, Burnsville**  
Twin Cities Repeater Club  
Open Circle Church  
2400 Highland Dr, Burnsville, MN,  
Facility info::Brett [n0bak@arrl.net](mailto:n0bak@arrl.net),  
40 Walk ins welcome, To pre-register: <https://metroskywarn.org/class-schedule>.



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## Universal Programming Cable?

### 8 in 1 USB Programming Cable

If you have several radios from different manufacturers, this cable may be the answer to a problem you didn't know you had! This cable reportedly interfaces with over 350 radio models.

Using the CHIRP software you could program the same frequencies into all your radios easily and accurately. Sounds too good to be true.

If you want to know more you can see the cable at the website: < <http://www.newfrog.com/p/8-in-1-usb-programming-cable-for-baofeng-for-motorola-kenwood-tyt-qyt-radio-200059.html> > The going price was about \$10 when last checked.

This might be an option for a radio club or ARES group to develop some 'standard memory' configurations for group use. Curious minds will no doubt find several applications for this multi-tailed programming cable.



"8 in 1 USB Programming Cable for Baofeng for Motorola Kenwood TYT QYT Radio"

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### Scott County ARES Contacts

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



*May your troubles be less,  
Your blessings be more,  
And nothing but happiness  
come through your door*

Irish Blessing

## 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.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!

### April 1, 2017 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, Pre-reg requested

### April 12, 2017 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

### April 17, 2017 Monday 6:00 PM

Sponsor: 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

### April 22, 2017 Saturday 9:00 AM

Sponsor: Bloomington Off/Emergency Mgmt  
Daniel J. Royer (952) 888-9756  
Location: Perkins Restaurant & Bakery  
City Hall-Police Department  
1800 W Old Shakopee Rd  
<http://www.Bloomington-VE.org>  
Bloomington MN 55431

## 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 one disadvantage of using a shortened mobile antenna as opposed to a full size antenna?
  - A. Short antennas are more likely to cause distortion of transmitted signals
  - B. Short antennas can only receive vertically polarized signals
  - C. Operating bandwidth may be very limited
  - D. Harmonic radiation may increase
2. What is reactance?
  - A. Opposition to the flow of direct current caused by resistance
  - B. Opposition to the flow of alternating current caused by capacitance or inductance
  - C. A property of ideal resistors in AC circuits
  - D. A large spark produced at switch contacts when an inductor is de-energized
3. How does an inductor react to AC?
  - A. As the frequency of the applied AC increases, the reactance decreases
  - B. As the amplitude of the applied AC increases, the reactance increases
  - C. As the amplitude of the applied AC increases, the reactance decreases
  - D. As the frequency of the applied AC increases, the reactance increases

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

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## February General Pool Answers

1. How close to the lower edge of the 40 meter General Class phone segment should your displayed carrier frequency be when using 3 kHz wide LSB?
  - A. 3 kHz above the edge of the segment
2. Which of the following most limits the effectiveness of an HF mobile transceiver operating in the 75 meter band?
  - C. The antenna system
3. What is impedance?
  - C. The opposition to the flow of current in an AC circuit

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# 60M Band Improvements

## Petition moves ahead

### ARRL Letter

In comments filed on March 20 with the FCC on its own January *Petition for Rule Making* (RM-11785), ARRL reiterated its case for a contiguous secondary 15-kHz wide, 60-meter band of 5,351.5 to 5,366.5 kHz in addition to the four existing discrete 60-meter channels that fall outside the requested band, with a permitted power level of 100 W EIRP and retention of current operating rules. More than 5 dozen comments, all supporting the proposed allocation, were filed on the League's petition. While



some suggested more spectrum or higher power, or a combination, ARRL said in its comments that it does not at this time favor any changes in its initial request for a new band. The League proposal would implement a portion of the *Final Acts of World Radiocommunication Conference 2015* (WRC-15) that provided for a secondary international amateur allocation of 5,351.5 to 5,366.5 kHz at a maximum of 15 W EIRP.



"Each component of this proposal is intended to maximize spectral efficiency by permitting amateurs to operate throughout a band as conditions and availability warrant; to give primary service operations certainty as to where radio amateurs will be located within the broader fixed and mobile service band between 5.250-5.450 MHz; and it protects those primary users with the same successful interference avoidance techniques and protocols that have been used for the past 15 years domestically, with which radio amateurs have the technical training and experience to comply," ARRL asserted in its comments.

The League said the WRC-15 power limit of 15 W EIRP "would render the band unsuitable for emergency communication, especially between the US mainland and the Caribbean Basin during summer storms and hurricane season, when atmospheric noise can be severe.

ARRL said there were good reasons for hewing to the proposal it initially crafted and filed with the FCC, most relating to the fact that the spectrum is shared with federal government users, and radio amateurs must avoid interfering with them. ARRL also pointed out that there is no "European Model" for 5 MHz, noting that the vast majority of European countries have held to the 15 kHz agreed to at WRC-15, and some even to the 15 W EIPR power limit. The National Telecommunications and Information Administration (NTIA), which regulates government spectrum, would have to sign off on any proposal, and, ARRL noted, it has twice expressed

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concern about a contiguous allocation at 5 MHz and did not favor the plan agreed to at WRC-15.

"While ARRL understands and agrees that there is a long-term, justifiable need for an allocation at 5 MHz that is larger than the 15 kHz made available at WRC-15, and there is a very practical need for power in excess of the 100 W PEP requested in ARRL's *Petition*, there are practical considerations inherent in the ARRL *Petition* that stem from an urgent and ongoing need to share the amateur allocation compatibly with other, primary users," ARRL said. "The Amateur Service must, of necessity, avoid interference to the primary users of this band (which it has, to date) in order to be permitted to operate there."

Citing its decades-long effort to obtain operating privileges in the vicinity of 5 MHz, ARRL said there's "not really much room for debate about the size of the band and the power limit domestically at the present time, given the allocation status of the band (domestically and internationally) and the necessary interference protection requirements for primary users."

"It is hoped that as regular amateur operation in this contiguous band develops, with the operating parameters recommended in ARRL's *Petition*," the ARRL comments continued, "such operation will continue to demonstrate compatible sharing with federal and other users and the operating parameters and the band can be re-examined and adjusted equitably at a later time."

ARRL said the most important thing is to have the FCC grant an allocation before offering initiatives to alter the plan it proposed in January. It urged the FCC to adopt the rule changes it proposed "at the earliest possible time, if at all possible in advance of the 2017 hurricane season."

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## 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 March 20, 2017.

Software	Version
Fldigi	3.23.21
Flwrap	1.3.4
Flmsg	4.0.1
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.



## Surf's Up!

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

### Extra Parts

<http://extra-parts.com/>

Welcome to Extra-Parts.com where we offer Extra savings on all your electronic components.

We have no minimum order requirements plus we offer most items as single pieces so you buy what you need instead of several that just end up getting lost over time. Best part is you can order up to \$24.99 in parts and only pay \$3.99 for shipping

### Tayda Electronics

<http://www.taydaelectronics.com/>

Large selection of components, Arduino Uno-\$4.99, boards, hardware, etc. Rapid shipping, low prices.

### Bald Engineer

<https://www.baldengineer.com/the-best-4-transistors-to-keep-in-your-parts-kit.html>

The Bald Engineer gives his recommendations for the Top Four semis to keep in your repair kit for general substitution.



## Test Your NIMS Knowledge

This month we begin our review of ICS-200. This course is designed to enable personnel to operate efficiently during an incident or event within the Incident Command System (ICS). ICS-200 provides training on and resources for personnel who are likely to assume a supervisory position within the ICS.

Check your recall of the course material with this question.

1. Who generally facilitates the Operational Period Briefing?
  - A. Public Information Officer
  - B. Operations Section Chief
  - C. Logistics Section Chief
  - D. Planning Section Chief

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

## February NIMS Knowledge Solution

1. Which General Staff position conducts tactical operations, develops the tactical objectives and organization, and directs all tactical resources?
  - A. Public Information Officer
  - B. Operations Section Chief
  - C. Logistics Section Chief
  - D. Planning Section Chief

## Slims On-The-Air?

### Special Events claim odd callsigns

DailyDX Newsletter

Special event stations sporting unusual call signs are — or will be — on the air this spring and later in the year.

From Canada's Yukon Territory, keep an ear open for XO1X, now on the air for the remainder of 2017, with plans to be active March 25-27 for the CQ World Wide WPX (SSB) contest. The special call sign prefix is permitted as part of Canada's sesquicentennial celebration, as is XK150YUKON, another Yukon Canam Contest Club call sign for the sesquicentennial, operating VY1JA remotely. Operators will include Gerry Hull, W1VE/VE1RM, Cary Rubenfeld, VE4EA, and others.

"The XO1 prefix has not been on the air in 35 years," Hull told ARRL. "My friend Andy, VE9DX, last put it on the air as XO1ASJ." That prefix block was subsequently moved to Yukon Territory, he explained.

OE17ATOM will be active from Austria starting at 2200 UTC on April 21 until 2200 UTC on April 22, operating on HF, VHF, and UHF from the only nuclear power plant that never was. The station will be set up inside the reactor hall and control room, and there will be a live video stream. Lower Austria radio clubs, the Icom Radio Club and Johanniter Unfall Hilfe-Austria organized the event.

The Zwentendorf Nuclear Power Plant was never run, owing to the outcome of a national referendum. Today, the plant produces electricity from some 2,300 photovoltaic panels, which can generate 450 kW peak.

From Croatia, 9A21RBM, on the air April 1-15, will commemorate the 21st anniversary of the plane crash near Dubrovnik in 1996 that claimed the lives of US Commerce Secretary Ron Brown and 34 others. Presumably the suffix stands for "Ron Brown Memorial." Members of Radio Club Libertas (9A4J) will helm the operation.

Another pending special event with an atomic connection is V15ANTLER, operating from Maralinga Village in South Australia, is planned for September 14-October 9. That area of northwest and south Australia is where the British carried out atomic tests in 1957 under the code name "Project Antler." Organizers say that this may be the first ham radio activity from the Maralinga Section 200 Restricted Area since that era. They are awaiting authorizations.

Want to be on the DX cutting edge? Two week trial < [www.dailydx.com/trial.html](http://www.dailydx.com/trial.html) >

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## Tower Rules Controversy

ARRL Letter

The owners of certain Amateur Radio towers have a friend in FCC Commissioner Michael O’Rielly, who feels that tower-marking provisions required under the FAA Extension, Safety, and Security Act of 2016, now Public Law 114-190, “could use tweaks.” In a March 10 blog post, O’Rielly expressed his belief that thousands of tower owners in the US could face expensive, unnecessary retrofits resulting from the law’s unintended consequences. The new FAA law would impose additional marking requirements for a small number of Amateur Radio towers, however. O’Rielly said §2110 — the section of the new law that requires improved physical markings and/or lighting on towers of between 50 and 200 feet — is too broad.

O’Rielly said that §2110 appears intended to address dangers to small, low-flying aircraft, such as crop dusters, from temporary meteorological testing towers (METs), among others, but that if implemented literally, “the provision will force expensive retrofits to potentially 50,000 existing towers,” including cell and broadcast station towers and all new towers meeting the law’s broad definition, “all with little gain to air safety,” he said.

The law instructs the FAA to enact rules similar to state-level statutes now in place that are aimed at improving aircraft safety in the vicinity of METs set up in rural areas. In the wake of fatal crop dusting aircraft collisions with METs, often erected on short notice, the National Transportation Safety Board (NTSB) recommended in 2013 that states enact laws — sometimes called “crop duster” statutes — requiring marking and registration of METs.

“Mandating new marking and/or lighting burdens for certain temporary aerial towers to aid agricultural pilots is a laudable goal,” O’Rielly commented. “However, the new statutory provision may have been drafted broader than intended and, as a result, it unnecessarily captures permanent communications towers that have little overall impact on agricultural air safety.”

While some state crop duster laws have exempted Amateur Radio towers, the federal legislation does not. ARRL General Counsel Chris Imlay, W3KD, has said, however, that the list of exemptions in the federal legislation restricts the application of the new rules to a very small subset of Amateur Radio towers. ARRL hopes to meet with FAA officials to discuss the issue.

Although O’Rielly did not mention Amateur Radio towers as a concern, he did allow that a small legislative fix to exempt certain towers or to require the FAA administrator to do so “would be appropriate.”

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## GFCI vs AFCI

### Ground Fault Circuit Interrupters Arc Fault Circuit Interrupters

SafeElectricity.org

The world of electricity is filled with acronyms and abbreviations – CFL (compact florescent light), kW (kilowatt), AC (alternating current), and POV (peak operating voltage).

GFCI (ground fault interrupters) and AFCI (arc fault circuit interrupters) are also common electrical abbreviations. They both help protect your outlets from electrical accidents.

Ground Fault Circuit Interrupters help prevent burns, electric shocks and electrocution. A GFCI has sensors that measure the current going in and out. Normally, the current is balanced.

However, if the current is out of balance, something is wrong. The electric current has made contact with a human, or somewhere else it should not be. The GFCI senses this and instantly shuts down the circuit, stopping the flow of electricity. Since water is an electric conductor, GFCIs are important in areas where water and electricity could meet, such as bathrooms, kitchens, laundry rooms, and garages.

Arc Fault Circuit Interrupters help prevent electric fires. Electricity can leak out of damaged or decaying wires and start a fire. These fires spread quickly in the wiring behind walls. Electric fires cause more damage than other types of fire, and are twice as deadly. AFCIs sense that electricity is leaking from the electric system and shut electricity off before overheating happens.

GFCIs prevent shocks, and AFCIs prevent fires. Both should be installed by a qualified electrician to make your home safer.

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## Bunsen Burner Day

March 31st

Bunsen Burner Day celebrates the birthday of its creator. German chemist Robert Wilhelm Eberhard von Bunsen was born on March 31, 1811. And, you guessed it, von Bunsen created the Bunsen Burner.

If you are a high school student, you know all about the bunsen burner. If you work in a chemistry laboratory, chances are you use the burner in your job. If its been a while since high school chemistry class, the memory of the bunsen burner may have faded somewhat.



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## Solar Panel Interference

### FCC Notice of Violation to Solar City

RFI Group

*Ed Note: A contributor to the RFI Group on Contesting.com relates his experience with RFI generated by residential solar energy installations and how the FCC finally took action.*

When we first moved to our neighborhood eight years ago there were only nine other houses in this new subdivision. None of us had solar power then. Since then, about seventy other houses have been built, and in the last two to three years about 75% of the houses now have solar power and nearly all of these are from Solar City.



SolarCity has an idea for how to help California utilities tap their own customers as an integral part of their billion-dollar distribution grid plans

During the last two to three years I have seen the background noise level here increased by about 9 to 10dB, and have felt it was primarily due to the Solar City installations. I have on several occasions called Solar City, and they have come out and looked at the systems at my two closest neighbors. Each time they claim everything is good, even though I can show them the noise level.

After an on-site visit and testing by an FCC Enforcement Agent of the ~S9 interference cause to my station by a Solar City solar array located 2 houses away, the FCC issued Solar City a Notice of Violation.

It appears that at least one of the primary interference generating components is a load balancing device called an “optimizer” which is attached to back of each solar panel. Testing by the FCC Agent showed that the interference does not stop until the optimizer is detached from the solar panel. Attempts by Solar City to add filters were unsuccessful and only resulted in a few DB of change.

The optimizer (as well as the rest of the system) is manufactured by Solar Edge. I was told by Solar City when I inquired about them installing a different type of system that this is the only kind of system that Solar City installs. Given this it's not hard to envision that many Solar City installations are causing this type of interference. Fortunately the FCC is concerned about this issue and is actively working to resolve it.

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## Summer Events '17

Grab your HT and have some fun volunteering for a Public Service event this summer! You get the chance to use your communications skills to benefit the community and meet some new Hams. Hey, there might even be a “Free Lunch” thrown in for good measure.

Check out the events listed below and volunteer for a couple hours of ham radio fun!



### April 22 - Saturday Waconia Walk / Half Marathon

Event sponsor website: [www.walkonwaconia.com/](http://www.walkonwaconia.com/)  
HVF / UHF communications volunteers needed.

Contact: Don Burgess, KC0QNA

Email: [kc0qna@yahoo.com](mailto:kc0qna@yahoo.com)

Cell Phone: 612-578-7561



### ARES Breakfast

Saturday

April 8th 2017

7:30AM

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



## NECOS Schedule March 2017

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](https://www.hamradio.com/147.165/765)

Mar 27th N0BHC Bob

April 2017

Apr 3rd KD0UWZ Chad

Apr 10th N0BHC Bob

Apr 17th WA0DGW John

Apr 24th KD0UWZ Chad