



# ARES COMMUNICATOR

Information for Scott County Amateurs



October, 2009

Accurate, Reliable Emergency Communications

Volume 9, Number 10

## 75<sup>th</sup> Anniversary WAZ

### New Worked All Zones Award

The November, 1934, issue of R/9 magazine announced a new operating award for radio amateurs, designed to encourage the growing popularity of contacting stations across the globe, what we know today as DXing. The award was called Worked All Zones and was to be granted for making confirmed contacts with hams in each of the 40 zones into which the world had been divided by R/9's editors. Today, 75 years later, R/9 has been succeeded by CQ magazine and WAZ - Worked All Zones - sponsored by CQ since 1945, continues to be one of amateur radio's most prestigious operating awards.

In celebration of the WAZ's 75th anniversary, CQ magazine is announcing a limited-term "Diamond Jubilee WAZ" award. A special certificate will be issued to amateurs who make contacts in all 40 CQ Zones of the World between November 1, 2009 and December 31, 2010. Certificates will be numbered but there will be no endorsements. Confirmations will not be required. However, it is expected that applicants will continue to uphold amateur radio's long-standing tradition of honesty and self-regulation. Standard WAZ application fees will apply.

Complete details on the Diamond Jubilee WAZ Award will be in the October 2009 issue of CQ, and are posted on the CQ website, <[www.cq-amateur-radio.com](http://www.cq-amateur-radio.com)>, with a link from the October issue highlights page.

WAZ is the second-oldest amateur radio operating award still offered today. The only current award that is older is the International Amateur Radio Union's Worked All Continents award. The ARRL's DX Century Club (DXCC) award was introduced in 1936. To date, more than 8,600 basic WAZ awards have been issued. More information on the WAZ award program is available on the CQ website at [www.cq-amateur-radio.com/awards.html](http://www.cq-amateur-radio.com/awards.html).

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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!

## Appropriate Use of Ham Radio

### FCC Clarifies the Rules

On Friday, September 25, the ARRL Board of Directors adopted guidelines on the appropriate use of Amateur Radio on behalf of commercial, non-profit and government entities, as well as recommendations for additional steps to be taken by the ARRL to educate radio amateurs and others on how to prepare and train for public service and emergency communications while complying with the current FCC Rules.

At its meeting in July 2009, the ARRL Board created an ad-hoc committee to study the issue and prepare suggested guidelines. The committee submitted its report to the ARRL Executive Committee, which reviewed and revised the document. After additional discussion among Board members by electronic mail and teleconference, the Executive Committee submitted the document to the Board for formal adoption.

Entitled *The Commercialization of Amateur Radio: The Rules, The Risks, The Issues*, the document offers guidelines to assist radio amateurs and anyone wishing to utilize the capabilities of Amateur Radio in understanding the FCC Rules that prohibit communications in which the amateur has a pecuni-

Appropriate Use *cont'd on page 2*

## ARES Activities

Weekly Net Monday 7 PM 146.535 mhz (s)

Breakfast Saturday, October 14th

Digital Monday October 16th

### SELECTED TRAFFIC NETS

Designator	Freq.	Local Times	
MN Phone	3.860Mhz	Noon, 5:30pm	Daily
MN CW	3.605Mhz	6:30pm, 9:50pm	Daily
<b>ARES</b>			
Scott ARES	146.535 S	7:00pm	Monday
Carver ARES	147.165+	8:30pm	Sunday
Bloomington	147.090+	9:00pm	Sunday
<b>Neighboring Nets</b>			
North Dakota	3.937Mhz	6:30pm	Daily
South Dakota	3.870Mhz	6:00pm	Daily
Wisconsin	3.985Mhz	5:30pm	Daily

## Appropriate Use of Ham Radio *cont'd from pg. 1*

ary interest, including communications on behalf of an employer. While the FCC Rules in this regard have not changed in many years, there has been increasing discussion of the issue as growing numbers of employers and non-amateur organizations recognize the value of Amateur Radio as an emergency communications resource and encourage their employees to obtain amateur licenses. Also included are guidelines for evaluating the appropriateness of Amateur Radio volunteers providing communications services to commercial enterprises and other entities for which other communications systems are available.

“The guidelines are not intended to be the last word on the subject, and surely will not be,” observed ARRL First Vice President Kay Craigie, N3KN, and chair of the ad-hoc committee. “The report includes several recommendations for additional steps that the ARRL needs to take to help amateurs and the organizations we serve to better understand the Rules and to ensure that what we do to prepare to be of service in emergencies is consistent with the current Rules.”

The ARRL paper on Appropriate Use of Amateur Radio is available on the [www.scottares.org](http://www.scottares.org) website on the Member Resources page.

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## Forty Meters: The Expanded Version!

The fall operating season is just around the corner. Whether it's because radio conditions improve or just because attention returns to indoor pursuits as the days get shorter, on-the-air activity always picks up at this time of the year.

Do you operate on 40 meters? “If you haven't been on the band lately, you're in for a real treat!” said ARRL Chief Executive Officer David Sumner, K1ZZ. “Years of patient effort by the ARRL and by our sister members of the International Amateur Radio Union (IARU) have paid off. The band is more useful now than it's been in more than 70 years. When you think of 40 meters, you probably think of interference from foreign broadcasters. Here in the Americas, amateurs always have had access to 7,000-7,300 kHz - but we had to tolerate broadcasters in the rest of the world in the upper two-thirds of the band.”

Sumner said he can recall the “futility” he felt as a 13-year-old Novice, “trying to make myself heard through the racket with just two crystal-controlled transmitting frequencies to choose from. I remember taking the crystal holders apart and putting pencil lead on the crystals in a vain attempt to slip in between the broadcasting behemoths.” At the 2003 World Radiocommunication Conference (WRC-03) — For the first time in the history of radio communication, an HF broadcasting allocation would be shifted in order to accommodate the needs of another radio service — the Amateur Radio Service!

Would the broadcasters really move? “The International Telecommunication Union has no enforcement authority,” Sumner explained, “and operation in contravention of the international Radio Regulations is not exactly unknown. In fact, the transition turned out to be quite dramatic. On the last weekend of March, on Friday evening 7,100-7,200 kHz was full of broadcasters as usual — but as the new seasonal broadcasting schedule took effect on Saturday night the band cleared of all but a few. For the very first time our overseas friends could hear us on 40 meter phone without having to breach the wall of broadcasters! Over the past six months the situation has continued to improve as more broadcasters have complied with the WRC-03 decision. Nighttime operation above 7,200 kHz remains a challenge, but it's not an exaggeration to say that 40 meters is like a whole new band.”

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## New Battery Technology

### More Power, Lighter Weight in the Future

A future generation lithium-air battery might be the much sought after power source for electric vehicles with ranges that match gasoline powered cars of today.

The interest in the as-yet-unproven technology was underscored this summer when I.B.M. said it had begun to pursue a tenfold improvement in battery storage, with hopes of reaching the goal before the end of the next decade.

I.B.M. executives said the company was unlikely to enter the battery business directly but was aiming toward a partnership that would marry its hardware and systems design expertise with ultralight battery technology.

Such a strategy would follow the lead of Tesla Motors, a new California company that produced a high-end electric roadster based on a computerized and sensor-based battery system. Tesla put 6,800 standard lithium-ion battery cells designed for consumer electronic products into a 992 pound package.

"I strongly believe that climbing this Mount Everest of 10 times better, given resources, time and patience, will happen," said Winfried Wilcke, a physicist and I.B.M.'s senior manager for nanoscale science and technology here at the Almaden Research Center. "This is simply so overwhelming in its simplicity and its clarity and the socioeconomic consequences it would have, that it deserves a Manhattan-like effort."

Battery experts met at the center for two days last month. The meeting highlighted both the promise of several types of new battery technology as well as the stumbling blocks.

Burton Richter, who won a Nobel Prize in Physics, expressed optimism about the progress in battery technology. "We have a wonderful confluence of people who are concerned about security, and people concerned about the environment, which makes batteries and electrical transportation a big deal," Dr. Richter said.

Lithium-ion batteries, the technology of choice for hybrid and electric car makers, have limited energy capacity. Researchers working on lithium-air and lithium-sulfur alternatives said at the I.B.M. conference that they would broaden the market for solar cars if safety issues could be overcome.

Lithium-ion batteries have the potential to deliver about 585 watt-hours of electricity per kilogram, while lithium-sulfur has a theoretical potential of about 2,600 watt-hours, and lithium-air batteries might reach targets well above 5,000 watt-hours.

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If they can be perfected, lithium-air batteries would be ideal for transportation applications, given their potential for high energy capacity and low weight. And, unlike zinc-air batteries, it should be possible to make them rechargeable.

The difficulty of developing such batteries is great. Scientists at the I.B.M. conference spelled out a range of challenges, like safety concerns and lowering the cost of the batteries, which now add thousands of dollars to the price of electric vehicles.

Nadav Enbar, an energy analyst at IDC Corp., said that despite I.B.M.'s optimism, the advent of lithium-air batteries was unlikely in the near term. Mr. Enbar cited the long testing cycles that new battery technologies must go through as the most significant challenge the company would face.

Jeff Dahn, a materials scientist at Dalhousie University in Halifax, Nova Scotia, warned that several of the battery efforts were at risk of repeating the mistakes of the past. Dr. Dahn described a rigorous testing program at a Canadian startup for a new consumer battery technology created during the mid-1980s.

Buyers of the batteries recharged them in ways that led to dangerous failures and their eventual recall.

But Dr. Wilcke, of I.B.M., said many of the problems cited by Dr. Dahn had been solved.

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*"Work, then, from day to day, nor pause  
for praise or blame, Care not for what  
men may say, duty is still the same."*

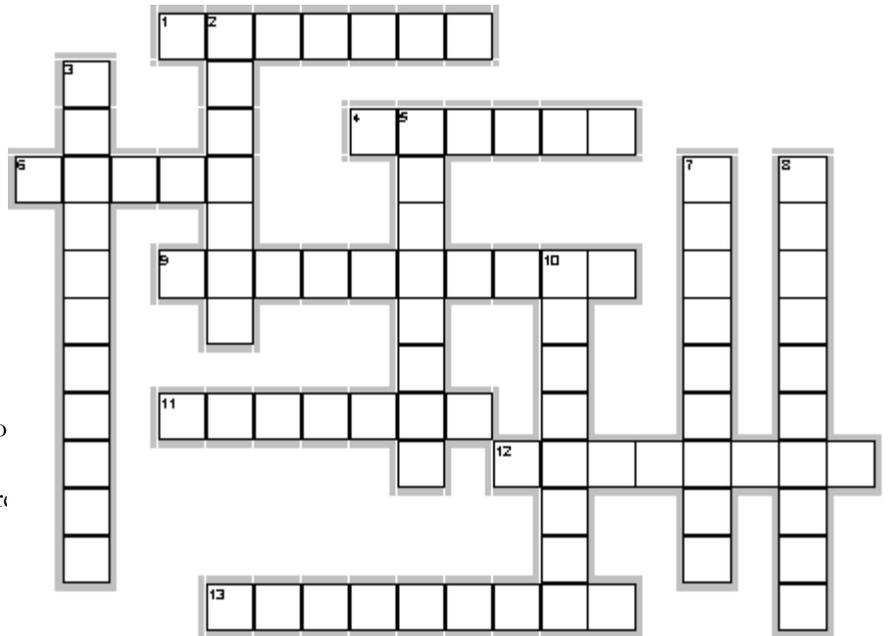
H. Abiff

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**Trick or Treat!**

# TECHNICIAN CLASS



Across

1. Operator responsible for transmissions from an amateur station.
4. Connected to the green wire in a three-wire electrical plug.
6. Units of electrical power.
9. Property of a radio wave often used to identify different bands.
11. Used to measure current in an electrical circuit.
12. \_\_\_\_\_ antenna consists of a single element mounted perpendicular to the earth's surface.
13. Used to connect a computer with a radio for data transmission.

Down

2.  $E = I \times R$
3. Converts sounds from our voice into radio signals.

5. Used to convert radio signals into sounds we can hear.
7. Extra \_\_\_\_\_ are a good thing to have when operating a hand-held away from home.
8. \_\_\_\_\_ per square centimeter is the measure for RF exposure.
10. \_\_\_\_\_ band including 146.52 MHz.



## September Crossword Solution: State Fair Trivia

Across

1. AGRICULTURE—Building where you check out the prize-winning produce.
4. CAROUSEL—Here we go 'round and 'round.
5. GRANDSTAND—A great place to watch Dan Patch race.
8. MIDWAY—where the rides are!
10. FISHPOND—Let's see if that big Exos lucius is back this year.
11. COLISEUM—Showy equine venue.
13. SPACETOWER—A high altitude view of the area.

14. HAUNTED—house that promises a spooky show.
- Down
2. GIANTSLIDE—Whee! a bumpy ride top to bottom.
  3. FOODBUILDING—The spot to cure hunger.
  6. CAMPGROUNDS—Nomad's temporary home.
  7. CATTLE—barn called the hamburger hotel.
  9. FINEARTS—Not your everyday art - the "good" stuff.
  12. SKYRIDE—Overhead voyage from Underwood St. to the midway.
  13. SWINE—Barn for the bacon.

## Marathon 2009

The cool damp weather on Saturday, October 3<sup>rd</sup>, didn't lessen the enthusiasm of the participants in the Marathon for Non-public Education at the Shakopee Area Catholic Schools site. The walkers, runners, bikers started at 8 AM and circled the course until approximately 10:30 AM.

Scott ARES members staffed five locations spread along the route to maintain a watch over the safety of the marathoners and provide coordination for marathon officials. This year, there were no reports of lost parents during the event. The school reports that they reached their fundraising goal for this year's Marathon.

Scott ARES members are enthusiastic supporters of area events and offer communications support for events which provide training opportunities. Events like the marathon are fun activities that help the community and build emergency communications skills.

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Bob, KB0FH, gets the station located at Marathon Central at the school set up and ready to go.



One busy location is on the corner of Independence Drive and Valley View Road. Pictured (l to r) a parent volunteer, Tony, KC0YHH, and Dan N0PI. The street sign provides a convenient antenna support.



There was a crowd at the school during the marathon. Marathoners took a break between laps and checked out the other activities at the school.





On your mark, get set - - - The group lines up at the starting line just prior to the official start of the marathon. Walkers, bikers, and runners were enthusiastic about making laps on the marathon course.

The corner of Valley View Road and Independence Ave. was the first corner on the marathon course. Bob, W0NFE, manned this check-point.



The Tent # 2 location was located at the corner of Valley View Road and Sarazan Street. Stan, KB0CQ, in the orange coat watched the activity at this corner.



## Common Energy Myths

### Energy efficiency and energy conservation are the same thing.

Efficiency refers to using less to perform a specific task. Examples include replacing traditional lighting with energy-saving fluorescent or LED technology, or installing ENERGY STAR®-rated equipment. Conservation refers to reducing your need for energy through changes in behavior, such as turning off office computers or riding a bike to work.

### Leaving lights, computers, and equipment on uses less energy than turning them on and off.

Many employees leave office lights on when they go off to lunch, thinking that it will use more energy to turn it back on than to just leave it on. In most cases, the small surge of power needed to start a device is much less than the power that is wasted by leaving it on when it is not needed.

### A heating and cooling system “works harder” to reach a comfortable temperature after setback or set forward.

Thermostats are often not adjusted at night or on week-ends while the facility is unoccupied because of the common misconception that the heating or cooling system must “work harder” or use more energy to reheat or re-cool the house. This is not how a thermostat works. The system turns on to reach a set level and then shuts off when that level is reached. It can be likened more to a switch that shuts on and off, rather than a gas pedal that accelerates faster the more you step on it.

### When a device is turned off, it is off.

Many appliances and electronic devices in the office—such as coffee makers and fax machines—continue to use power after they have been switched off. Sometimes as much as if they were on! This is known as standby power or phantom load. The only way to stop the drain of power from these devices is by unplugging them.

### Screen savers save energy.

Screen savers do not save energy. They were designed to prevent any specific image from being displayed on your computer monitor while it is dormant—thus avoiding burn-in. Burn-in is a “ghostly” image that can begin to occur on a monitor after it has been displayed on screen for an extended period of time. Essentially, it takes as much energy to display a screen saver as any other image on your computer. To save energy, simply turn off the monitor when not in use or adjust your settings so that the monitor shuts down after a specified period of idle time.

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The U.S. Coast Guard Auxiliary will celebrate their 70<sup>th</sup> anniversary this month. One activity in recognition of this achievement is the Coast Guard Auxiliary Radio Day.

USCG members holding amateur radio licenses will take to the air on Saturday, October 17, 2009 between 0900 – 1700 hrs. local time.

Auxiliary members all across the country hope to spread the word about the scope and purpose of the USCG Auxiliary while providing communications experience for their members. Of course having fun renewing old acquaintances and recruiting new members will play a role in the activities.

Many stations will be using Special Event 1 x 1 call signs during the recognition. Be sure to listen for station N0B operating from Minnesota on several frequencies: 7.28, 14.28, 21.36, and 28.355MHz, depending on propagation.

You can find more information on participating stations at the website: <http://a0530407.uscgaux.info/SED2009.html>.

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### ARES Breakfast

Saturday October 14th  
7:30AM  
Perkins Restaurant  
Savage, MN

### NECOS Schedule October 2009

5 Oct N0PI Dan  
12 Oct W0NFE Bob  
19 Oct KB0FH Bob  
26 Oct KC0YHH Tony  
2 Nov N0PI Dan  
9 Nov W0NFE Bob