ARES COMMUNICATOR

Information for Scott County Amateurs

March, 2007 **Accurate, Reliable Emergency Communications** *Volume 7, Number 3*

Interoperable Communications Assessment Released

Dept. of Homeland Security Scorecard for Metro Area

The Department of Homeland Security (DHS) today released scorecard assessments of interoperable communications capabilities in 75 urban and metropolitan areas nationwide. Interoperable communications involve policies, technology and training that enable law enforcement, fire and emergency medical services from multiple jurisdictions in a common community to effectively communicate within one hour of an incident.

"The 9/11 Commission identified interoperable communications as a major challenge and many communities listened by taking the sometimes difficult steps necessary to close communication gaps among first responders," said Homeland Security Secretary Michael Chertoff. "Their experience proves that basic interoperability at the command level is achievable. We're committed to making this a priority in every major urban area, and we'll continue to push for closing these gaps by the end of 2008."

The reviews focused on three main areas: Governance (leadership and strategic planning); Standard Operating Procedures (plans and procedures); and Usage (use of equipment). The evaluation criteria was derived directly from the SAFECOM Interoperability Continuum and Interoperability Maturity Assessment Model that depicts the key components of interoperability — governance, standard operating procedures, usage, technology, and training and exercises.

Interoperability *cont'd 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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Reader submissions encouraged!

Emergency Radio Web Site

"Ham Radio . . . Getting the message through for your family and community" is the theme of the League's 2007 public relations campaign. The "Emergency Radio" Web site <http://www.emergency-radio.org/> debuted this week. ARRL Media and Public Relations Manager Allen Pitts, W1AGP, says the 2007 PR initiative picks up the momentum ARRL public information officers started during the just-ended "Hello" campaign.

"As we begin launching the new emergency communications campaign, the friendships and good will developed in Hello will aid in future promotions of Amateur Radio," Pitts said. "For 100 years, radio in its many forms has saved lives and aided in crises. We have a great legacy and a bright future."

The new Web site is a partner to the "Ham Radio . . . Getting the message through for your family and community" brochure now available and, in fact, already starting to make the rounds. "If an emergency or disaster should happen, the new 'Ham Radio . . . Getting the message through' site has the capability to quickly upload current

Emergency Radio *cont'd page 5*

ARES Activities

Weekly Net Monday 7 PM 146.535 mhz (s)
Breakfast Saturday, March 10th

SELECTED TRAFFIC NETS

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

Interoperable Assessment

cont'd from pg. 1

The findings identify gaps and areas for improvement. Key findings include:

* Policies for interoperable communications are now in place in all 75 urban and metropolitan areas.
* Regular testing and exercises are needed to effectively link disparate systems and facilitate communications between multi-jurisdictional responders (including state and federal).
* Cooperation among first responders in the field is strong, but formalized governance (leadership and strategic planning) across regions is not as advanced.

The scorecards illustrate the current capability for each area and provide recommendations for improvement.

The only areas in Minnesota covered by the review was the Twin City metro area. The Twin Cities area includes St. Paul and Minneapolis and cities, townships, and political subdivisions within and including the counties of Dakota, Hennepin, and Ramsey. The Twin Cities received an Advanced Implementation rating in the area of Governance, Standard Operating Procedures, and Usage.

The Governance rating indicates that decision making bodies proactively look to expand membership to ensure representation from broader public support disciplines and other levels of government, while updating their agreements and strategic plans on a regular basis.

Regional Standard Operating Procedures, reviewed through the TICP process are in place and regularly used by included agencies. NIMS procedures are well established among all agencies and disciplines. All procedures were effective utilized during exercise(s).

In regard to usage, first responders regularly and seamlessly utilize interoperability solutions. The region demonstrated successful multi-agency communications during exercise(s), including state, federal, and support organizations.

The technology utilized to achieve the interoperability is described as follows; The City of Minneapolis and Hennepin County agencies currently operate on the Allied Radio Matrix for Emergency Response (ARMER) systems. The ARMER systems include an 800 megahertz (MHz) digital trunked system, a very high frequency (VHF) system, and an ultra high frequency (UHF) system. The City of St. Paul, Dakota County, and Ramsey County operate on various 800 MHz, VHF, and UHF systems. Interoperability is achieved using shared radios, gateways, console patches, and shared channels (e.g., ARMER 800 MHz, VHF, UHF, and National Public Safety Planning Advisory Committee 800 MHz frequencies).

Ramsey County includes the City of St. Paul and is currently migrating to the ARMER radio system. Dakota County will migrate to the ARMER system in 2007. In addition, the metropolitan area, consisting of nine counties and including the three UA counties, is developing a 700 MHz wideband data interoperability solution.

The report made no mention of any contingency plans in the event the 800 megahertz system is compromised.

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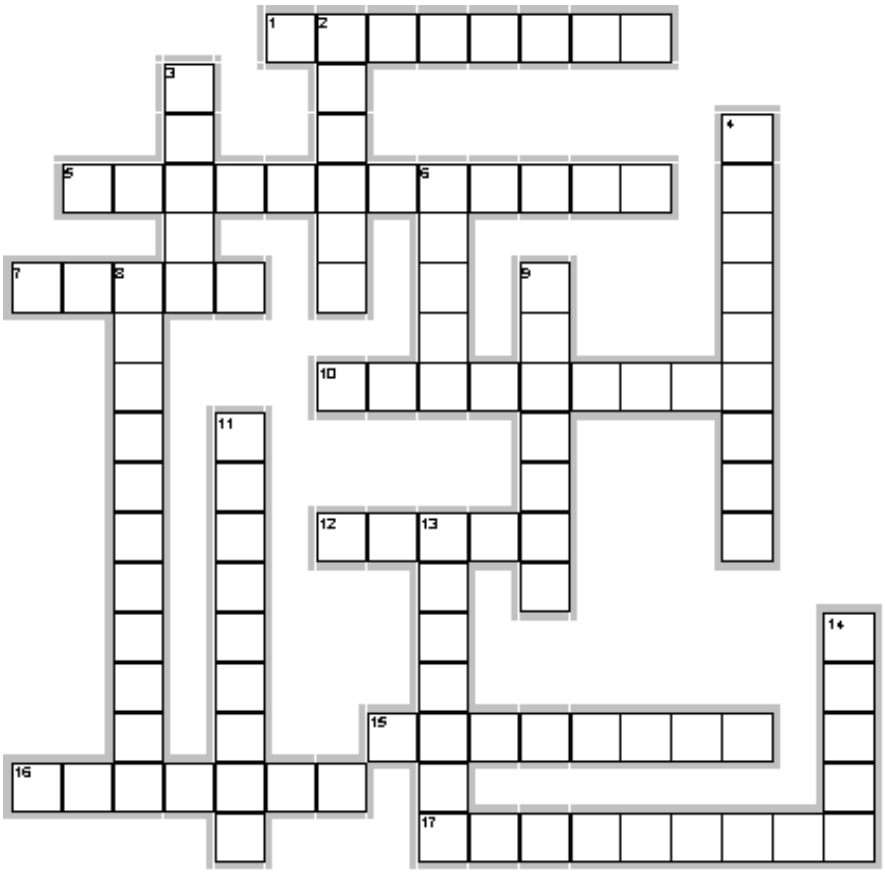
HAS YOUR
ARES ID EXPIRED?

Oscilloscope Basics



Across

1. A graphic representation of a voltage varying over time.
5. An instrument used to make voltage changes visible over time.
7. The amount of time that passes from the beginning of a cycle to the beginning of the next cycle, measured in degrees.
10. The magnitude of a quantity or strength of a signal. Usually refers to voltage or power.
12. A common waveform shape that has a fast rising edge, a width, and a fast falling edge.
15. The time taken for the leading edge of a pulse to rise from its low to its high values, typical measured from 10% to 90%.
16. A type of 'scope that uses an ADC to convert the measured voltage into digital information.
17. The grid lines on a screen for measuring oscilloscope traces.

Down

2. A type of oscilloscope that creates a waveform display by applying the input signal to the vertical axis of an electron beam moving across a CRT screen from left to right.
3. The 'scope control that adjusts the cathode ray tube electron beam to control the sharpness of the display.
4. The number of times a signal repeats in one second, measured in Hertz.
6. One horizontal pass of an oscilloscope's electron beam from the left to right across the CRT screen.
8. A signal in which the current and voltage vary in a repeating pattern over time.
9. The circuit that references a horizontal sweep on an oscilloscope.
11. A frequency range, usually limited by -3db.
13. The unintentional interaction of the probe and 'scope with the circuit being tested, distorting the signal.
14. The visible shapes drawn on a CRT by the movement of the electron beam.

Mental Exercises

Ready for a little creative thinking? Check these out and watch for the answers next month.

1. knee
   light

2. ground
   feet feet feet feet feet feet

3. he's X himself

4. ecnalg

Power Supply Basics Crossword Solution

Across

2. VARISTOR—A surge suppression device used to absorb transients and spikes occurring on the power lines.
4. SPIKE—An extremely short perturbation on a powerline, usually lasting for hundreds of milliseconds to several seconds.
7. FOLDBACK—A type of current limiting which reduces the current through the regulator to a low value under a short circuit condition.
8. REGULATOR—A device or circuitry for maintaining a constant output voltage over a range of load currents and input voltages.
10. BIPOLAR—A term used to denote the common two junction transistor types (NPN or PNP) as opposed to the FET devices.
11. ROOTMEANSQUARE—Refers to the effective value of an alternating voltage or current corresponding to the dc voltage or current that would have the same heating effect.
12. TRANSIENT—A short perturbation on a powerline, usually lasting for microseconds to tens of milliseconds.
13. PASSTRANSISTOR—The transistor that controls the passage of power between the unregulated dc source and the load in a regulator.

Down

1. BLEEDER—A resistive load across the output of a supply to quickly discharge the stored energy once the supply is turned off.
3. RIPPLE—The residual ac left after rectification, filtration, and regulation of the input power.
5. VOLTAMPS—The product obtained by multiplying the current times the voltage in an ac circuit without regard for the phase angel between the two.
6. CROWBAR—A last-ditch protection circuit which senses an overvoltage condition and fires an SCR to short circuit the supply and protect the load.
9. INVERTER—A circuit for producing ac power from a dc source.

BREAK - OVER

Mental Exercise February Solution

1. man overboard
2. I understand
3. reading between the lines
4. cross road
5. tricycle
6. two degrees below zero

Help Create a New HF Digital Mode

The ARRL is seeking comments from amateurs concerning development of an open-source (non-proprietary) data communications protocol suitable for use by radio amateurs over high-frequency (HF) fading paths. This is not a Request for Proposals (RFP). An RFP may or not be forthcoming depending on evaluation of the information received.

Specifically, the League is asking for comments and information on the following issues:

* Access Method: Is Orthogonal Frequency-Division Multiplexing (OFDM) the best candidate technology, or should other competitive technologies be considered?
* Data Rate and Bandwidth: What data rates/throughputs are achievable at various bandwidths up to 3 kHz bandwidth?
* Adaptivity: What adaptive features should be considered, such as automatic adjustment of transmitter power, modulation waveform and coding, in order to maximize throughput and efficiency in two-way contacts?
* Robustness: What is achievable for reliable operation at power levels typical in the Amateur Radio Service and low signal/noise and interference ratios?
* Error control: What are the appropriate applications of error control suitable for HF channels? For example, how should Repeat reQuest (ARQ) and Forward Error Control (FEC) be applied to two-way contacts and one-to-many (roundtable and bulletin) transmissions?
* Activity Detection: What is an effective method of determining whether a frequency is busy prior to transmission?
* Operating System: What operating systems (such as Windows or Linux) are appropriate for Amateur Radio use with this protocol?
* Hardware: What practical and affordable hardware platforms are suitable for amateur stations? Consider the use of personal computers with or without sound cards. Provide any information about the need for an additional "box" if needed.

Please provide the following with your response: (1) name of respondent, (2) respondent's contact information, (3) related experience, and (4) type of respondent: (individual, partnership, corporation or group). Do not include proprietary information as part of your response.

Post, fax or e-mail your response by 1900 UTC, May 15, 2007, to ARRL Chief Technology Officer Paul Rinaldo, W4RI <w4ri@arrl.org>, 3545 Chain Bridge Rd — Suite 209, Fairfax, VA 22030; Fax: 703-934-2079.

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Daylight Savings Time

How many of you are aware that this year daylight savings time will start and end on different dates?

In an effort to increase energy conservation efforts, Congress, in late 2006, changed the start of Daylight Savings time to the second Sunday in March and the ending day will be the first Sunday in November.

Now, how many of you remember when you installed your Windows operating system that it asked you if you wanted it to automatically change the time when Daylight Savings time change rolled around? Well guess what – unless you have Windows XP installed and have kept current with your updates – your machine still thinks that Daylight Savings Time is going to start on the first Sunday in April and end on the last Sunday in October. Microsoft is not providing any automatic updates for Daylight Savings time for anything but Windows XP. For operating systems prior to Windows XP, users are going to have to manually change the date – and unless you have access to some of the right resources, changing the Daylight Savings Time requires editing the registry – a task that should not be undertaken by the faint of heart.

Microsoft has a thorough discussion of this issue, titled "Preparing for daylight saving time changes in 2007" located at: http://www.microsoft.com/windows/timezone/dst2007.mspx

Should you own a windows version prior to Windows XP, your best bet is to use the "tzedit" executable to update your installation of windows. The "tzedit.exe" file, where tzedit stands for "Time Zone edit" is a small program, about 32 kb, that you can run, follow the instructions, fill in the required information as required to update your machine. This executable file (extension .exe) is available at the URL above. Yes, you are going to have to download the executable file and run the file in order to update your computer. Some of you have firewalls, antivirus software, and all other kinds of protection installed on your machines that are going to have conniptions when you want to download the executable – your choice, if you want a relatively painless way to fix this issue you need this tool, otherwise, as previously stated editing the correct registry entry (the important words here being *the correct registry entry*) to make this update is painstaking and not for the timid. One other thing to remember – don't delete this little tool either – when someone decides that changing Daylight Savings Time didn't yield the desired result and we all get to change it back – the same tool will be needed, so you may as well hold onto the program.

The link to tzedit is provided the link above, but if you find it doesn't work, just do a search in your favorite search engine (Google, Yahoo, etc.) using the criteria – "Windows Daylight Savings Time". You will receive pages of links, review them and one of them should be to the Microsoft site, otherwise, feel free to pick the one that best fits your liking. There are other sites that offer up the tzedit tool, downloading from Microsoft gives you some level of comfort that the file is clean and will work.

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Emergency Radio *cont'd from pg. 1*

information, providing PIOs with words and pictures to circulate to the media while the event is still news," Pitts explained.

As both the brochure and the "Ham Radio . . . Getting the message through" Web site note: "Amateur Radio . . . has consistently been the most reliable means of communication in emergencies when other systems failed or were overloaded." The campaign stresses that ham radio works and works well and it doesn't require any external infrastructure, such as telephone lines or even the Internet, to get the message through.

The Web site provides page space for emergency communication and disaster relief organizations to tell about their work. "So far, SKYWARN, MARS, SATERN and RACES have taken advantage of our offer, showing the versatility of ham radio in disasters and emergencies," Pitts says, "and more are expected."

The campaign also emphasizes that ham radio is fun and a good way to keep in touch with friends or family. "You can have this capability for yourself and your family," the campaign points out, inviting members of the general public to get an Amateur Radio license and become active in emergency communication through the Amateur Radio Emergency Service (ARES) or other organization. A "How to Get Started" tab on the Web site offers step-by-step instructions.

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Coming Soon
Opening March 21st

DST *cont'f from col. 1*

Is it Time to Re-assess Where Are We Needed Most?

Jerry Boyd, N7WR, WorldRadio, February, 2007

An interesting phenomenon has occurred within Amateur Radio Emcomm over the past quarter century. Prior to the early 1980s, with some relatively few and notable exceptions, the focus of Amateur Radio efforts in time of emergency or disaster was the public. When an emergency occurred, our forte was getting health and welfare (H&W) messages through when there was no other medium available for that 'purpose. Our claim to fame was the value the public placed on us to let Mom and Dad in Omaha know that Susie in Anchorage survived the earthquake and was alive and well. With few exceptions, prior to the early 80s, it was the public, not government - and certainly not public safety - that was the recipient of our fine work. There were several reasons for that.

Until the early 80s, public safety was generally a closed society. Law enforcement in particular, but to some degree fire and EMS as well, had a "we can do it and we don't need any help" attitude. Public safety personnel were somewhat suspicious of volunteers and did not seek ways to put them to use. Amateurs, as we are volunteers, often found the door closed, locked and unattended when they went knocking to offer services to public safety entities. That all changed, for a variety of reasons and I, as a Chief of Police at that time, had the opportunity to be right in the middle of those changes.

In the 1970s there were a number of government-funded studies of law enforcement which sought to improve the profession. Those studies were an outgrowth of the riots of the mid-1960s and to some degree blamed law enforcement for those acts of public disobedience on the premise that the police were "disconnected" from the citizens they served. As a solution, those studies recommended (in fact created "standards" requiring) the inclusion of community volunteers within the public safety professions. Not just reserve police officers or volunteer fire fighters but volunteers in crime prevention, communications, senior services, investigations, etc. That was the opening of the door which led to the current use of volunteers of all types (including Hams) by public safety entities across the nation.

I was proud to have had a role in expanding the use, by public safety, of Amateur Radio operators for communications support. I authored a series of often quoted articles in ARRL publications regarding ways in which amateurs could achieve acceptance by those of us in public safety. I spoke on the subject at Amateur Radio conventions throughout the western United States and, in concert with the police department I headed and the American Radio Relay League, produced a much-watched video tape on the subject ("At Any Moment").

Over time, more and more public safety entities accepted Amateur Radio operators and began to utilize their services in emergencies and for large-scale special events. A good thing - if that is where it had stopped. But it didn't. Over time, my fellow police chiefs along with fire chiefs and others in government began to see amateurs as a cost-effective way of getting "routine," non-emergency work done without having to pay for it. After all, amateurs can't be paid as amateurs can they? And if agencies expand the role of Amateur Radio from actual communications in an emergency to include such things as installing public safety radio equipment, operating mobile communications units, and even serving as extra eyes and ears of the department on Halloween patrol - all without cost to the agency - then that, too, is perceived as a good thing.

For those amateurs not attracted solely by the opportunity to work along side cops and firefighters, many public , safety agencies threw in a few incentives. Special police/fire identification cards, maybe a badge or a uniform. Some agencies with which I am familiar have gone so far as to make the "leaders" of affiliated Amateur Radio groups "Reserve Officers" with concealed firearms privileges as part of the deal.

I must tell you, in all candor, that when I played a role in opening the doors of public safety to Hams, oh, those many years ago I did not 'envision the degree to which the welcome mat would eventually be extended. My objective, back then, was to insure that when public safety communications in an emergency were inadequate to the task at hand, amateurs could and would come into supplement (not substitute for) public safety resources. I did not envision, nor would have supported, a situation in which amateurs substitute for what should properly be a routine function of government. I most certainly did not envision, and would not have supported, the all- too-common situation today where the status and prestige of the uniform, badge, or agency affiliation is what drives amateurs to become involved, rather than their motivation being the idea of service and the fact that such service is one of the basic purposes of Amateur Radio. So, by way of historical review, amateurs in many cases became the "property" of the agency which issued the badge, ID, and uniform. To some extent, and r have witnessed this firsthand, too many became prima donas. They will work for "XXX County Sheriff," whether or not their service is really needed or has anything more than ego value. But they will

Re-assess the Need *cont'd on pg. 7*

Re-assess the Need *cont'd from pg. 6*

not work for Susie in Anchorage who, today like twenty-five years ago, has no way to let Mom and Dad in Omaha know she survived the earthquake which took out both landline and cellular telephones and the internet.

Jim Wades in his WorldRadio column last fall hit the nail on the head. We have arrived at the point where government agencies too often dictate what we as amateurs will do and how we wi1l do it. We have, as Emcomm operators, lost touch with our roots - with the very basis and purpose of our existence. We fathom ourselves as emergency managers, as first responders, as public safety "professionals" though unpaid, and we have siphoned off too many to serve too few. There certainly are exceptions to this picture I paint and I am thankful for those amateurs who still serve citizens in need.

The events of 9/11/01, Katrina, and Rita collectively have reduced (not eliminated, but significantly reduced) the real need government has for our communications services. Yes, there will be times when public safety communications systems fail and our services will be needed. However, now being directly involved in public safety communications' as my livelihood, I can tell you that the billions of Homeland Security dol1ars spent by and on public safety over the past five years have reduced, substantially, public safety's need for Amateur Radio Emcomm. My dispatch center serves 27 different public safety entities. We have enough technology with redundancy that I seriously doubt Amateur Radio will ever be needed to support their operations. I shudder when I hear people and organizations of amateurs talk about Amateur Radio having a I significant role in public safety communications interoperability. If that's true it is a terrible indictment of how Homeland Security grant money has been spent. Interoperability "black boxes" are common place as are whole new radio systems all across the country. The pity is that while the need for amateur support of government has diminished, the number of gadgets and toys which keep so many Hams glued to their police or fire department have grown exponentially, thanks to those grants.

I strongly believe, though I helped create this monster, that it is time to re-think our priorities and refocus our efforts in the direction of those who really need us when "the big one hits." Preparing to set up stations in public places, to accurately handle message traffic for the general public who will be without any other form of communications may not be as glamorous as staffing an EOC radio, of driving a sheriff's comm. van "Code 3.." In terms' of value and service however, Health & Welfare traffic on behalf of citizens is critically important. That's where many of us started in Emcomm, and in this writer's opinion it is where we ought to return.

- (The author welcomes feedback. comments. questions and suggestions. He may be contacted via n7wr@wrrl.org or exlasd@msn.com)

Editor's Note: There are many agencies active in emergency response other than the 'official' public service agencies. The Red Cross, Salvation Army, Utilities, and Hospitals often utilize amateur radio volunteers in their disaster response plans. There is a role for Amateur Radio ecomm in addition to Health and Welfare traffic.

BREAK - OVER

Quick Training Tips

Habits to Avoid in Emergency Communications

* Thinking aloud on the air: "Ahhh, let me see. Hmm. Well, you know, if..."
* On-air arguments or criticism
* Rambling commentaries
* Shouting into your microphone
* "Cute" phonetics
* Identifying every time you key or un-key the mic
* Using "10" codes, Q-signals on phone, or anything other than "plain language"
* Speaking without planning your message in advance
* Talking just to pass the time.

BREAK - OVER

ARES Breakfast
Saturday March 10th
7:30AM
Perkins Restaurant
Savage, MN

NECOS Schedule - March, 2007

5 Mar	K0KTW Pat
12 Mar	N0PI Dan
19 Mar	WONFE Bob
26 Mar	KB0FH Bob
2 Apr	AB0YQ Steve
9 Apr	N0PI Dan