



The Wisconsin ARES/RACES Emergency Coordinator



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The WEC Newsletter is sent monthly to all American Radio Relay League Emergency Coordinators in the State of Wisconsin. It is intended to provide a forum for ECs to share ideas concerning the organization and training of their respective groups, and as a source of news concerning ARES and RACES activities in the state.

Comments, suggestions and articles (finished or in rough form) are solicited from the readers.

This newsletter and other important documents are posted on the Wisconsin ARES/RACES web page at:

<http://wi-aresraces.org>

in PDF format, shortly after each issue is published.

Deadlines: The newsletter is mailed on or about the 15th of the month preceding the date shown on the issue. Thus, the February issue is mailed on or about the 15th of January. Articles and notices must reach the editor no later than the 1st of January to be considered for the February issue.

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Emergency Operations Centers

By Jim Wades, WB8SIW

{From the TRAFFIC column in the August 2002 issue of WorldRadio, a great ham publication. Reprinted with permission (and with a thank you to WorldRadio!).}

A question often received from readers of this column may be summarized as "**What type of equipment should we install in our Emergency Operations Center (EOC)?**" The answer to this question depends somewhat on local circumstances. Nonetheless, there are some recommendations that apply to most ARES organizations.

The most basic requirement is 144 MHz and 440 MHz FM capabilities. Today, most ARES activity centers on the 2-meter FM band with its ample

supply of repeaters and personnel. However, ARES organizations should not overlook the value of maintaining a parallel capability on the 440 MHz band. The 440 MHz band can prove ideal for specialized circuits serving unique emergency management functions. For example, one may wish to establish an intercom circuit between several command posts and nearby EOCs. The 440 MHz band also offers superior building penetration, an advantage when one must communicate from steel-reinforced structures such as schools, office buildings, and most Red Cross shelters.

A single dual-band radio at the EOC is not recommended. However, two separate dual band radios offer valuable redundancy. The goal is to keep the two operating positions separated in order to permit each net operator to concentrate on a single net or task. The simple fact is, few individuals can run two nets at once.

Packet Radio is another valuable tool overlooked by some ARES groups. It offers more than adequate speed for basic text messaging, a degree of security, and it is accurate and easy to use. It is often an ideal mode for linking EOCs, Command Posts, and similar key facilities. Almost any inexpensive, used computer manufactured in the past 20 years is capable of running a terminal emulator program and driving a generic printer. TNCs and VHF radios have become quite inexpensive in recent years as well, permitting one to assemble a fixed or portable packet station for just a couple hundred dollars.

If funding is not an issue, it may be wise to stage two or three portable packet stations at the EOC for deployment in the event of a disaster. This will insure that the capability is available, just in case individual members with the capability are unavailable.

Some ARES groups expect HF liaison to be conducted from the home of a member. This is often a polite way of saying "Old Joe, he's been active in traffic for years, but he's too old to come into the EOC for a shift. We'll just call him on 2 meters if we have traffic." If your group plans to utilize a home station for HF liaison (for example, to a State EOC), be sure to rely on an operator with both the necessary experience and emergency power. Likewise, it might be unwise to rely on 2-meter FM for liaison. Your two-meter net control will be far too busy managing basic tactical

The Wisconsin EMERGENCY COORDINATOR net operations to worry about handling traffic. UHF or packet radio liaison may be a better choice.

If space and funds permit, it may be best to locate the HF capability at the EOC. This permits operators to utilize the equipment in shifts, while reducing the demand on other network resources in the VHF or UHF spectrum. The HF equipment should have both SSB and CW capability. A straight key should be available for the latter mode.

Some sections have developed reasonable HF digital capabilities. Likewise, the MARS programs have extensive PACTOR Nets. This may prove a good choice for a digital capability. However, the choices made as to digital capability depend largely on what is in use at the Section level.

There are a variety of modes available to ARES groups that could be included in the list, ranging from the commonplace to the exotic. However, the above recommendations are the basic requirements. ARES groups are cautioned not to make choices as to capabilities based on a "popularity contest." Work with the agency in question to identify budgetary limitations, and then prioritize the capabilities you require based on their overall value to emergency response.

Finally, don't overlook the most basic capabilities. On 4 June we found ourselves assembling a complete radio communications center from scratch at a county EOC that had no antennas, coaxial cables, conduits or equipment of any kind. Yet, we managed to have a wide variety of capabilities in place within an hour or so. These capabilities included VHF-FM, VHF Packet and HF SSB, CW and PACTOR. While things worked well on our end, problems arose at the State EOC. For about the third time in as many years, circumstances were such that HF CW proved the only reliable link to the State EOC. The lesson from this is something far too many of us forget about. Sometimes the most basic capabilities prove the most reliable. CW proved more than adequate for handling the required traffic.

Before we leave the topic, here are some other considerations for an EOC radio area:

1. Don't overlook acoustics. Some form of acoustical treatment for walls and ceilings will do much to improve operator efficiency by decreasing ambient noise. Acoustical tiles are available from a number of broadcast supply houses.
2. Try to separate voice positions with digital positions. For example, a packet radio station or CW position is likely to be less distracting to a radio-telephone operator than a similar voice net operating right next door.
3. Supply headphones and encourage their use. This means operators must be trained to transcribe messages and keep radio logs as opposed to "shouting" information across the room.

4. Don't overlook the small stuff. For example
 - a. Clocks.
 - b. Message forms, radio logs and so forth.
 - c. Word processing programs or electronic typewriters.
 - d. Pens, pencils, etc.
 - e. Post summaries of basic operating instructions for the radio at each position.

Finally, stay safe. Ensure that all RF transmission lines are grounded and equipped with lightning arrestors. Avoid "rats nests" of electrical cables. Spend some money on proper surge suppression and bonding.

Riley's Guide to Good Amateur Practice

*[Extracted from John Johnston's (W3BE) column, called **Rules and Regs**], in the January 2003 issue of **WorldRadio**, with permission. Riley is, of course, **Riley Hollingsworth, K4ZDH**, the **FCC Enforcement Bureau Special Counsel** who has single-handedly turned around the previously ineffectual enforcement of the ham bands. When Riley talks, all hams should listen, including those of us in ARES/RACES. Pay attention especially to the last bullet and remember that this applies to us, too.]*

- Give a little ground, even when you are in the right.
- Respect band plans so that every mode has a chance.
- Don't transmit a wideband signal on a busy band.
- Don't act like an idiot just because you were stepped on.
- Don't damage or disgrace Amateur Radio just to save face.
- Keep your personal conflicts off the air.
- Cut nets and contesters a break.
- Operate so that your listeners will be impressed with Amateur Radio.
- Operate so that hams hearing you won't be sorry they ever got into ham radio in the first place.
- Recognize that every right carries responsibilities.
- Understand that you don't "own" or have preference to use any frequency.

Sauk County Annual Renewal Form

[Pete Sweeney, WD9JIB, Sauk EC, sent me a copy of his Annual Renewal Form and I thought you would like to see it. Perhaps you already have one that meets your needs. If not, look at the elements that Pete has included and adapt/modify for your own use.]

By the way, stepping back for just a moment to look at the big picture, items like this are exactly why this newsletter exists. It is a forum to share ideas between ECs, so that we

Annual Renewal Form for Sauk County ARES/RACES

Your membership in Sauk County ARES/RACES brings with it both privileges and responsibilities. In ARES/RACES you may be able to go into secured/restricted areas and do what others cannot do. You also have the responsibility to be adequately trained to be an asset to the situation you find yourself assigned to. We must always keep in mind that last year's training may not be good enough for this year's emergencies.

It is also vitally important that we are able to work as a team. Teamwork is learned by practice and working with one another. These are the two purposes and goals of our meetings and training as an emergency response group. In the future, one of the requirements of our members will be the completion of the ARRL Level I Emergency Communication Course, but for the present this is only a strong encouragement.

Our job as volunteer radio operators is vital to the safety and well being of the all those who might find themselves in harms way in our community. It has therefore become necessary to have minimum requirements for membership in this organization. There are only three, but they are very important.

1. Attend at least 6 meeting per year.
2. Check into the ARES/RACES net at least once every month.
3. Be willing and able to respond to an emergency, should it occur.

If you are out of the area for a season of the year, please advise the EC of this. If you are vitally interested in ARES/RACES, but have special situations, talk to the EC about them. If you feel you have pressing personal issues that prevent you from participating in ARES/RACES to the above level of performance, first deal with these issues, then talk to the EC about joining.

Please fill in the following basic information:

Call:

Radios you use (mobile or base):

Band and PL capable?

Name:

Address:

Home telephone:

Work telephone:

Email address:

Your normal shift (day, night):

I want to contribute to the safety, health, and well-being of others and feel I can participate in ARES/RACES as put forth in this application for 2003. (Signature block)

CD-ROMs as Emergency Signal Mirrors

By Jack Morrison, N9SFG, ASEC for Training

Stan Piekarczyk, KE6IFC, ARES Emergency Coordinator for Outagamie County, came up with quite an ingenious use for those pesky CD-ROMs that show up in your mailbox from time to time. (I was Stan's mentor in the ARRL EmComm I Course, and he sent in this idea as one of his lessons). Use them as emergency signal mirrors. Properly used, the light from one of these commercial CDs can be seen from as far away as 10 miles.

Hold the mirror to reflect sunlight, and then sight through the hole in the center. You will see a bright spot in the distance; which is the direction of the reflected beam of sunlight. Keep your eye on it and slowly adjust the mirror position until the bright spot is on top of your target.

Thanks to Stan for the idea, a much better use than throwing them away. Keep one in your car, and those of you that have boats might consider keeping one on board for emergencies.

Leadership Changes

The big news is **Vernon County** has a new EC, **Melody Owen, N9ZWZ**, effective 1Jan. If you recognize the last name, its because her husband David Owen, N9TUU is EC in neighboring Richland County, which makes the first husband/wife EC team in the state. Melody works in a hospital in Vernon, and is sure to interface her ham group with the medical facility as she grows the group. Welcome, Melody, to Wisconsin ARES/RACES leadership! Her data is in the new EC Roster, already posted on the website (<http://wi-aresraces.org>). Neighbors, send her a welcome at: daveo@mwt.net.

Ham Statistics

Though you'd like to know. As of December 2002, there were 685,308 Amateur Radio Station licenses in the US. Wisconsin had 10,726, or about 1.6% of the nation's total licenses. About 0.2% of Wisconsin's population are hams, and about 12% of Wisconsin hams are ARES/RACES members. Here is how our state's hams stack up. Data for Wisconsin ARES/RACES is current as of 1Jan03. Percentages have been rounded using standard conventions.

	WI	%	ARES/RACES	%
EXT	1,704	16	303	23
ADV	1,360	13	175	13
GEN	2,348	22	256	19
T+/TEC	4,818	45	591	45
NOV	496	5	5	0.4
TOTAL	10,726	100	1,325	100

The Wisconsin EMERGENCY COORDINATOR ARES/RACES has about 7% more Extra class hams than Wisconsin in general, and 8% more Extra class hams than the US in general. We also have significantly fewer Novice ticket holders than the state in general. Otherwise, the ARES/RACES profile is very close to the rest of the state.

The EmComm Courses in Wisconsin

Don Michalski, W9IXG, snagged the data for me, and our Training Officer, Jack Morrison (N9SFG) did the analysis for the table below. Data is current as of 1 Jan 2003.

A total of 49 Wisconsin hams have taken and completed one or another of the three ARRL EmComm courses. There are 5 hams that have completed all three (N6NKO, KB9RHZ, WB9RQR, N9SFG and N9VE). Four have completed EmComm I and II: N9PQO, KB9YXP, WB9ADB and N9ZHZ. Two have completed just EmComm II (before EmComm I was a prerequisite): KF9CS, KW9R. The remaining 38 hams have completed EmComm I.

The table below shows how many hams in a county have completed one or two or all three of the courses.

COUNTY	#	COUNTY	#
Barron	1	Outagamie	2
Brown	1	Ozaukee	3
Columbia	1	Portage	2
Dane	2	Price	1
Dodge	4	Racine	1
Douglas	2	Rock	1
Dunn	1	Sauk	3
Eau Claire	3	St Croix	1
Jefferson	1	Walworth	2
Kenosha	3	Washburn	1
Manitowoc	1	Washington	1
Milwaukee	5	Waukesha	3
Monroe	1	Winnebago	2

Notable are small counties such as Sauk (way to go, Pete!) where a significant percentage of the ARES/RACES hams (nearly 20%, in Sauk's case) have graduated.

The EmComm courses are important. Comments from police chiefs, fire chiefs, emergency managers and others are already coming in from around the United States indicating that there has been a notable improvement in the way hams who have taken the courses provide emergency communications. When such comments come from outside the ham community, this strongly suggests they reflect reality.

There are probably two factors that help the graduates. Naturally, the first factor is the new information that the lessons provide. Even the most experienced

emergency communicator will learn new things from even the first and most fundamental course, EmComm I. This increases with each successive course in the series.

The second factor is, it puts us all on the same page. As Jack Morrison puts it, the courses introduce a degree of uniformity in communications techniques, across the board. That means a ham from county A will be using techniques completely familiar to and used by a ham in county B. While there are many human endeavors in which uniformity is best avoided (art, for example), emergency communications is not one of them. In the "heat of battle", it is always reassuring for an emergency operator to know exactly what to expect from the ham they are communicating with. Uniformity in communications techniques reduces the possibility of error under pressure.

So, that is the benefit list. ECs, please strongly encourage your members to sign up for EmComm I. In my experience, they will want to continue to II and III. That is exactly how it was described by one of my graduating students the other day. His email message said, "I've just signed up for EmComm II; I must be hooked." And, ECs, don't forget to sign up yourself!

Computers

FYI, 37 were distributed in 2002 to ECs across the state. Some are packet servers (BBSs), running 24/7. Some live in Emergency Operations Centers, some are in ham homes, some are in Red Cross buildings, but all are being used or are ready to use for emergency communications.

As of this writing, I have six ready to go. Four are Pentium 200, 2 with sound cards and two with CD-ROMs. One is a Pentium 233 with CD-ROM. One is a Pentium 266 with sound.

WB9WHG has offered to transport computers to or near their intended destination (he travels the state quite a bit). So, if you need one, just let me know. It may take a couple of weeks, but it will get to you or near you. Thanks, Dave, for the delivery service!

Three laptops came in (and went out) in 2002. Though I don't get many, I do get them on occasion and they are snapped up quickly. Lots of ops like them for packet, even mobile packet. I do accept even 486 laptops, since the demand for them is high.

Desktop or laptop, CD-ROM or sound or both, whatever you need, let me know. If I have one ready, it is yours. If not, your need goes on a list and will be filled whenever I get in and refurbish what you need. Just send me an email. Stan