*The WEC Newsletter is published monthly in .pdf format to the Wisconsin ARES/RACES Web site **http://wi-aresraces.org**. 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 Wisconsin ARES and RACES. Comments, suggestions and articles (finished or in rough form) are solicited from the readers.*

***Deadlines:** The newsletter is published between the 15th and the 31st of the month preceding the date shown on the issue. Thus, the February issue is published in late January. Articles and notices should reach the editor no later than January 1 to be considered for the February issue. Permission is granted to reprint articles from this newsletter provided credit is given as follows: "Reprinted from The Wisconsin Emergency Coordinator Newsletter, KB9ENO, Editor".*

ARES Leadership Changes

By Bill Niemuth, KB9ENO, SEC Wisconsin

Jeff Ramlow, N9WBR, has decided to step down as ASEC for Training because of time constraints of his newly expanded position. Jeff was a key member in helping get my tenure as SEC going. He contributed to the initial Web site design and coordinated the 2004 Simulated Emergency Test. Although Jeff will no longer be part of the WI ARES/RACES Executive Leadership team, he will continue to be an instrumental contributor to the Portage County ARES/RACES program. Good luck, Jeff!

Replacing Jeff is **Sidney "Skip" Sharpe, W9REL.** Skip is retired after a career in the Air Force and as a firefighter and administrator. I am confident Skip will provide a great deal of professional knowledge to our organization and be creative in his training agenda.

John Kuntz, KB9RYI, Grant County EC, has agreed to assume the Crawford County EC role. As a former DEC John is uniquely qualified to lead both counties. Thanks for taking on the additional responsibility, John!

Rick Williams, KV9U, has assumed the position of WI ARES/RACES Electronic Communications Coordinator. In this role, Rick will primarily be responsible for moderating a Yahoo! discussion group intended to spur additional dialog about emergency communications within Wisconsin. Rick will also provide his technical assistance to the organization. Welcome Rick!

Rich Willette, WD9GNK, is the new EC Newsletter Editor! With **Don Michalski's, W9IXG**, help, we finally found a dedicated EC Newsletter Editor. Rich has editor experience and I am extremely happy he has stepped up to the forefront and decided to assume this role. Moving this off my plate will help me concentrate on our initiatives. Thanks Rich!

Jim Westover, KB9BKK, resigned as LEC for APCO. Thank you, Jim for all of your past contributions.

Jim Staatz, KI9H, has stepped down as Rusk County EC. The search for Jim's replacement has begun, but it appears we'll need to shut down the ARES/RACES organization in Rusk County for now. Good luck, Jim!

John Rusfeldt, KB9RZL, has resigned as Racine County EC. John made a lot of progress in a short period of time, but his work schedule has become much more demanding. We are searching for John's replacement now. Good luck, John!

Point Beach Nuclear Power Plant After Exercise Report

By Dan Cole, N9NCU, EC Manitowoc County

Many thanks to the Manitowoc ARES/RACES members who participated in this exercise; they are, and performed like professionals. Here's the report.

Manitowoc County ARES/RACES Participation Report:
Point Beach Nuclear Plant Emergency Exercise – December 7, 2004

Manitowoc County RACES was activated by Manitowoc County Emergency Management at approximately 0850 CST via telephone call to RACES RO, **W6BSF**. Net was convened on 146.610, and participants were dispatched to their duty stations. The Manitowoc County Emergency Management EOC (EOC 1) was activated by 0910 CST. Eight (8) Manitowoc County ARES/RACES members participated in the exercise.

Communications were established from the following locations:

1) EOC 1 – net control using two operators; VHF communications within Manitowoc County using the 146.610 repeater.
2) Mancorad Club shack (EOC 2) using two operators; VHF communications using the 145.190, 146.610 and 146.805 repeaters (communications to the Kewaunee County EOC on 146.805), and HF voice (7.251) and PSK (7.027) with the State EOC in Madison, WI.
3) Manitowoc County Red Cross headquarters in Manitowoc, WI – one operator using VHF communications.
4) Manitowoc County Reception Center – one operator using VHF communications.
5) Manitowoc County Evacuee transportation bus – one stationary/mobile operator (shadow follower) using VHF communications. This operator followed evacuees from the Reception Center to the Congregate Care Center at UW – Manitowoc.
6) Manitowoc County Red Cross Director – one stationary/mobile operator using VHF as shadow communications backup to the Red Cross Director. Because cell phone coverage failed for a substantial portion of the exercise, this operator was primary communicator for the Red Cross Director.

The 146.610 repeater was successful for communicating within Manitowoc County participants. The 145.190 repeater was unsuccessful in communicating with the WI State EOC and with the Kewaunee County EOC (Kewaunee could not access 145.190). HF voice and digital communications were successful with the WI State EOC.

The Emergency Exercise was terminated at 1309 CST.

Manitowoc ARES/RACES participants: **W6BSF, Fred; NZ9Z, John; N9NCU, Dan; KB9YRC, Travis; N9QFO, Len; N9JZZ, Mark; N4WGK, Denise; and KB9VLS, Chris**

SKYWARN FREQUENCY LIST UPDATES

By Skip Voros, WD9HAS, Executive Director MASA

The Milwaukee Area Skywarn Association (MASA) is seeking your input to annually update a statewide list frequencies used for Skywarn and severe weather reporting.

According to **Skip Voros, WD9HAS**, the executive director of MASA, "because of increased awareness toward interoperability and that the National Weather Service is one of ham radio's most served agencies, having a accurate and current frequency list is an essential part of any emergency communications plan."

Voros notes that an accurate database also provides immediate community awareness and self-promotion for local clubs, highlights a critical use of ham radio, and helps generate new members interested in public service.

ARES/RACES team leaders should link to www.mke-skywarn.org and click on the blue Wisconsin Spotter Frequencies button.

Emergency Back-Up Power Supply Systems

By Ken Meyer, K9KJM, EC Door County

Over the years I have fooled with a number of different schemes to supply power in the event of a commercial power outage. I am convinced that what I am now using is about the most cost effective, simple way to do it.

I operate all of my radio equipment (except high power amplifiers) on a single (Fleet Farm) marine deep cycle battery. ($40.00). Trying to use more than a single battery requires isolation diodes between the batteries. One battery provides plenty of power until the generator can be put on line. This includes a number of 12-volt fluorescent lights meant for a camper or RV unit ($9.00 each on sale from JC Whitney). Since all radios and associated accessories are running from the battery at all times, if there is a commercial power failure, nothing happens. They keep on operating. This set up also removes problems associated with power surges and brown out. The "Secret" to make this work is a FULLY AUTOMATIC battery charger that drops the charge once the battery is fully charged. ($38.00 at Fleet Farm on sale)
Note that the "Outgas" problem from a battery is not a problem in normal operation. Also note that more and more commercial systems are using such a set up, some with the sealed batteries. The only time a battery produces outgas is if the battery has been deeply discharged, then rapidly charged.

My original set up in the house has the battery in the next room from my ham shack, with number 4 copper wire run to the ham shack. My "new" ham shack in the tower building has the battery inside the radio console, on the floor in a plastic marine battery box. With a reasonable transmit/receive duty cycle, I can easily get 8 or so hours of operation before the battery will need to be recharged. This gives me plenty of time to get the gas generator going. I use a Kohler 4.5 KW 240-volt gas generator. In the event of a power outage, I shut off my main circuit breaker (200 amp) and all branch circuits except a few lighting circuits. The 240-volt outlet in the garage the generator is plugged in to. I start the generator and then click on other breakers one at a time, as needed, to keep from overloading the generator. My 4.5 KW will run the entire household including the 240-volt well pump, as long as common sense is used in turning things on. A person could not operate the electric hot water heater, electric oven, water pump, etc. all at the same time. The advantage to a smaller unit like 4 to 5 KW is it does not use as much gas as a larger unit like a 10-12 KW will. My entire house runs on less than a gallon per hour. I only need to run it about twice a day for an hour or so to build up water pressure, charge the radio batteries, keep the freezer cold, etc. It works great. I keep the generator next to the overhead garage door, and when it is run I just slide it outside the garage and close the door on its power cable. It is plugged in to a 40-amp arc welder outlet in the garage with a heavy-duty number 6 copper extension cord meant for the welder.

For those who do not have to run a 240-volt well pump, the little hand held generators should work well. I also have one of those for camping (Coleman Powermate, 1850 watt), which also has a 12-volt output to charge batteries directly. In the 4 to 5 KW range, Menards sometimes has sales of the Coleman 5KW units for $399.99. But it requires two people to move the unit. The little 1850-watt unit costs almost as much, but is very portable. Those with deep pockets who do not care how much fuel is used can use the 10-15KW units to run an entire household without having to be careful of what loads are on at any give time. If I had really deep pockets I would have a 12 KW unit with the automatic transfer switch, for around $6,000.00, plus installation.

Total supplies needed the way I am doing it:
    Gas generator, 5 KW   (On sale at Menards) $ 400.00
    Marine Deep cycle battery   40.00
    Fully Automatic charger   40.00
                        Total: $ 480.00

The new LED lights are much better for lighting than the older 12-volt fluorescent lights I am using. I plan to switch to LED lights as I find them cheap.

Over the years I have also tried a wind generator and solar panels, without much luck to provide useful amounts of power.

Door County ARES/RACES Packet and APRS Digipeater Emergency Power Configuration

Digital Update
By Jim Darrow, KB9MMC, WI ARES/RACES Digital Coordinator

Before being appointed to the position of digital coordinator, I often would look at the different ARES/RACES groups' Web sites to see how others did things, and what could be learned from their experiences. One ARES group in California went so far as each computer in their digital arsenal was set up the same as the next. Each digital station had the same radio, same TNC, same operating system, same programs, same icons, in the same locations. This was done so that any of their members could staff any station whether at an EOC or in the field and would know where everything was and how it operated.

While gathering information from the various Wisconsin counties as to what our digital capabilities are, I received all kinds of replies as to each county's ability, and software. Some operated DOS, others Windows, and others Linux. As we move forward to expand our digital capabilities one of the things we must standardize is the operating systems on all of our computers that we are using at the EOC's and in the field. I had read somewhere that the Microsoft's Windows Operating System runs on 96% of all the computers. As a precursor to any type of WinLink 2000 deployment in Wisconsin we should all be using at least Windows 2000, or XP as operating systems on our computers. Some of the WinLink programs will run on Windows 98SE with all the upgrades, but I've been told, "it's a little bit like an old car, it's cranky but it works."

It's been said before that WinLink 2000 is not the "be-all and end-all," but it is a new communications mode, which Wisconsin ARES/RACES is pursing. Using the newer Windows operating systems, along with the newest in messaging software gives us the ability to send files, attachments, and e-mail via packet or HF at a speed and accuracy that we couldn't before.

Over the next several months we'll be going through what's available to us for EMCOMM in the areas of software, design theory of a digital system, and hopefully how all the pieces of the puzzle can be put together for both local and long range EMCOMM needs.

For those who might wish to put together a digital station a computer with Windows 2000 can be obtained from Dr. Stan Kaplan, WB9RQR. Some ARES/RACES groups in the state, which have 501(c)(3) status, can find just about any Microsoft product at deeply discounted prices at http://www.techsoup.org/.   Look in the Techsoup stock area.

EmComm Certification Tips!

By Don Michalski, W9IXG, Section Manager, WI and Dr. Stan Kaplan, WB9RQR, past SEC, WI

Many members of Wisconsin ARES/RACES have taken advantage of the EmComm (AREC) courses being offered by the ARRL.   For ARRL members, it is (or, should be) a no-brainer because the $45 fee is reimbursable upon successful completion of the course.   The knowledge obtained is invaluable even to those who thought they knew emergency communications before taking the course.   This is why the **Section Emergency Leadership Team** has made it mandatory that all ECs be certified in, at least, EC-001. It is vital that we all be singing from the same sheet music in times of an emergency!

Certification can be accomplished in three ways:

- o Take an on-line course, complete all required activities, and pass all applicable assessments.
- o Take the Hybrid classroom course, complete all required activities, and pass all applicable assessments.
- o Take the assessments from Certification Examiners and pass based on self-study and experience in Amateur Radio emergency communications.

Each on-line course has been developed in segments -- learning units with objectives, informative text, student activities, and quizzes. Courses are interactive and include direct communications with a Mentor and other students. Mentors assist students by guiding them through the course. Activities for each lesson are emailed by the student to the Mentor, who approves each. This helps the student to stay on track and prevents them from straying off on a tangent. Students for each C-CE course are required to pass a Final Assessment (exam) of 25-multiple choice questions each with a score of 80% or better. All students who successfully complete the course requirements and pass the assessments earn an attractive certificate. (Amateur Radio Emergency Communications Course Certification also includes an ID card.)

On-line AREC courses permit students a maximum of 8 weeks to complete the course. Students may complete the course much more quickly if they so desire. Many students complete an AREC course in about 20-25 hours. The schedule for Hybrid AREC classroom courses is determined by the instructors just as license classes are. They may be scheduled for one or more weekends, or during the evenings.

Enrolling into the courses is pretty straightforward.   There are two methods offered.

You can wait until the course opens up on the Web and register on-line at www.arrl.org/cce In Wisconsin, the registration window opens up at 2301 hours, Central Time, on Sunday evenings (0001 Eastern Time on the 1st, 2nd, or 3rd Monday of the month). EC-001 registration is the 1st Monday, EC-002 is the 2nd Monday, and EC-003 is the 3rd Monday of each month.

Registration by mail is, also, an option. Make the check or money order out to ARRL, 225 Main Street, Newington, CT 06111. Please mark the envelope "ATTN: C-CE." In the comment section of the check or money order, write "C-CE EC-00X Registration." You will be enrolled in the next available class.

Once you start the course, there are some things you should be made aware to help you get through the course as quickly as possible. I have asked **Stan Kaplan, WB9RQR**, Senior Mentor and ARRL New Mentor Training Coordinator, to provide these helpful tips:

"Probably the single most common problem is not reading the welcoming letter that comes from the mentor a bit before the class starts, and/or not following the instructions in that welcome to the letter. For example, often, students send queries or replies to their mentor by just hitting the reply button, instead of using the explicit address noted in the welcome letter. To avoid this, some mentors require a "Learning Unit 0" to make sure communications is set up properly and the correct address is used. Another common error is to send the answers to the short 5-question quiz found at the end of each lesson to the mentor; those quizzes are there just to help the student gauge their own progress. Another is for the student to not clearly label their work (name, call) when sending them to the mentor; the mentor may have many students and not labeling the work makes it necessary for the mentor to look up each student to try and figure out from whom it came. A mentor who is not responsive is a rare thing. Usually when a mentor does not respond, it means that the messages/lessons are not being received by the mentor. That is where the proper addressing of email messages is critical to make sure what the student sends is being received appropriately. Most often, it is a student who is not responsive - often because they decided not to take the course after enrolling, and don't communicate that fact to the mentor or staff. Mentors are generally pretty good about responding ... Terry Dettman (and recently, myself) are in charge of giving a course to all prospective mentors to make sure they are on-board with what they need to do, and how to respond to various situations they might encounter with students. I think non-responsiveness by a mentor will decline markedly and totally disappear as time goes on, and I suspect it is already quite low."

It should also be noted clearly that you cannot pass the course by just taking the on-line test. You must also complete each student activity, submit it to your mentor and have it approved as satisfactory. You need to do this as you work through the course. Thus, expect to have a periodic dialog with your mentor as you complete each Learning Unit in the course. Just getting a passing grade on the final exam is NOT enough to graduate.

I hope these tips help you understand the process of enrollment for AREC courses. I want to, also, forewarn you that the reimbursement policy may not last much longer (present funds will run dry sometime in 2005) so it behooves you to enroll ASAP!

If you need help, please contact me and I will be happy to assist wherever I can.

I recommend you frequently check out the Wisconsin ARRL site www.arrl.org/sections/?sect=WI for updates on the program and registration schedule.

Chain of Command

By Bill Niemuth, KB9ENO, SEC WI

Any good organization has a structure. In the past, this is something WI ARES/RACES has not been particularly good at and the improvement of the organizational structure has been an area of priority for me. Some of the new ECs are familiar with this, but I have not been as clear as I should have been regarding the chain of command.

An AEC's first point of contact is his/her EC. An EC's first point of contact is his/her DEC. DEC's report directly to me and are part of the Senior Leadership Team, along with my assistants. Does this mean an AEC or EC cannot communicate directly to Senior or Executive Leadership? No, this communication can be made as long as the EC or DEC is copied on an e-mail message or otherwise made aware of the communications. Surprises and back door communications create conflict and we cannot afford to have it. For those of you who have been part of the leadership of the organization know, the DECs have different responsibilities than in the past, they have become the leaders of their districts. Each has input into local decisions. Please ensure they are aware of your communications with me or a member of my Executive Leadership team.