NVARC
Nashoba Valley
Amateur Radio Club

SIGNAL

SPECIAL SERVICE CLUB
ARRL

de N1NC

May 2000 Volume 9 Number 5

This Month's Meeting

This month's meeting program will be a presentation on VHF Contesting by Les KA1DZV.

If you have a show-and-tell type of thing or a story you can share bring them along to any meeting.

Last Month's Meeting

At last months meeting we held elections. The current slate of officers was unopposed. There were no candidates for the open Vice President position or the open Board of Directors position. We desperately need candidates for these positions in order to distribute the work and to insure continuity. Members should consider volunteering for one of these positions or possibly one of the 'filled' spots. There are other jobs that need to be done like writing for the newsletter or even being the editor.

The meeting program was a presentation on Amateur Slow Scan TV by Paul Doherty N1QDX.

SKYWARN Training

For anyone interested in SKYWARN that missed the training session that was given in Shirley there will be another SKYWARN Training session for Middlesex County (MA). The training is finalized and will be held Tuesday May 16 from 7pm to 10pm at the Bedford VA Hospital Edith Nounes Auditorium, 200 Springs Road, Bedford MA.

Board of Directors Meeting

Minutes of the Board meeting held on 5/11/00 at 7.30PM. Present: Stan, KD1LE, Ralph, KD1SM, Bob, W1XP, Ian, NZ1B Absent: Erik, KA1RV (working), Russ, WR1Y.

The Groton Road Race was discussed with the sense that the race was successful, without incident, and that the organizers were grateful for the support of local club members. FRS radios were used this year by some of the organizing committee, which allowed them to communicate directly and removed traffic from the regular nets.

The Elections results were discussed from the election meeting held in April. There are still vacancies in the Vice President and one Board Member position, so we need to fill these positions.

Election Results:
President: Erik, KA1RV
Vice-President: open
Secretary: Ian, NZ1B
Treasurer: Ralph, KD1SM
Board members: Bob, W1XP, Russ, WR1Y, open

Upcoming events are: Parker Race (Devens next weekend) and Field Day. Several Board members will be out of town for Field day and we are still looking for a volunteer to organize the Club effort.

Ian, NZ1B

How We Get Things Done

The weather is improving and everyone is looking forward to lots of outdoor activities. Beginning in the Spring there are lots of opportunities to participate in public service and club member supporting events. Each month the newsletter carries a current listing and the Web address of the PSLIST site where you can view the most up to date information on public service type events in New England. The list was created and is managed by KD1SM and KD1LE. The list is an attempt to help and encourage an important premise of Amateur Radio. That is the public service aspect. I hope to see many of you at the various events both local and not so local. I hope to work some of the more distant events so I can see how other groups manage their activities.

It takes people to make these activities successful, so we depend on the support of the whole group to get enough bodies to run the road race, the bike race, put up the tower, do a road clean up, hang an antenna, or whatever our pet project is.

None of us can do these projects alone, so in return for the support each of us receives for our favorite things we each need to return the favor and support activities that are valued or needed by others. Everyone is busy and has priorities to adjust. Those who include the activities of the Club in their priorities ought to be the ones to whom the members of the Club will reciprocate.

I have to say that I don't know of any club that supports as many or more public service activities than NVARC. I know that I am supporting pretty much all that I can handle and when it comes to where I will commit to additional projects it will be based on the above criteria.

Stan KD1LE

Public Service

The Groton Road Race went off as scheduled April 30th. About forty hams participated performing the various communications duties necessary for the event to operate safely. Thanks to Erik KA1RV for organizing the ham participants.

Above is Stan KD1LE lounging around the Net Control Station (Ralph KD1SM is hiding behind the camera as usual). Below is Mike K1TWF who helped with the event and stopped by to make sure we were doing our jobs.

In the first picture there are three rigs on the left monitoring the various event frequencies each with its own 'memory speaker' which was displayed at a club meeting as show-and-tell. They worked out very well for the event and we were glad we had them. Thanks to Stu K1YET, Erik KA1RV, Wolf KA1VOU, Stan KD1LE, Ralph KD1SM, Herm KE1EC, Craig N1ABY, Dan N1LLG, Don N1NWE, Lynda N1PBL, Allyn N1PIP, Jeanine N1QIT, and Rod WA1TAC for supporting this event.

Last months road cleanup went off as scheduled. Thanks to the following for helping out.

L-R Ralph KD1SM, Jim AA1PO, Earl WR1Y, Erik KA1RV, Larry KB1ESR, Herm KE1EC, Stan KD1LE, Ian NZ1B, Craig N1ABY.

Sunday May 21 is the next road cleanup. Some members will be busy that day working the race at Devens so if you are available for the cleanup your help would be appreciated. Stan

The Parker Classic Road Race is the next event we support. It takes about a dozen participants to cover the course properly. If you want to help out the contact is Stan KD1LE.

The Harvard Bike Race is coming up July 16th. It was originally scheduled for Sunday May 14th which was Mothers Day and of course is Hoss Traders weekend. If you can help out please contact Stan KD1LE at 978-433-5090 or pozerski@net1plus.com

The Public Service List

Listing public events at which Amateur Radio communications is providing a public service and for which additional volunteers from the Amateur Community are needed and welcome. Please contact the person listed to identify how you may serve and what equipment you may need to bring. Every event listed is looking for additional volunteers.

Date Location Event
Contact Tel/Email

May 21
Devens MA Parker Classic Race Stan KD1LE
978-433-5090 pozerski@net1plus.com

Needham MA ADA Tour de Cure Bruce KC1US
781-275-3740 http://cpsg.amateur-radio.net
kc1us@qsl.net

Jun 11 Cape Ann MA ADA Tour de Cure
Keith N1HLK 781-631-2877 n1hlk@nsradio.org

Jun 25 Biddeford ME Tour de Cure
Bryce K1GAX 207-799-1116 k1gax@arrl.net

Jun 29-Jul 2 Fitchburg MA Fitchburg Longsjo Classic Ralph KD1SM 978-582-7351
kd1sm@arrl.net

Jul 4 Freeport ME L.L. Bean 10k Run
Bryce K1GAX 207-799-1116

July 16 Harvard MA Harvard Classic (bike race)
Stan KD1LE 978-433-5090 kd1le@amsat.org

Jul 28-30 Portland ME OpSail 2000
Dale W9WBA 207-797-5292 w9wba@juno.com

World Wide Web users: this list is maintained at http://purl.org/hamradio/publicservice/nediv.

$May Treasurer Report$

Income for April was $75 in dues, $5 in ARRL membership rebates, and $4.93 in bank interest. Expenses were $13.20 for newsletter postage.

General Fund: $822.94
Community Fund: $1467.55

Welcome to new member Rob Maxwell KA1YID of Ayer.

A few of you are still behind in sending in your membership renewal. We'd hate for you to stop receiving this newsletter, but that is what will happen shortly for some. Please check the date on your mailing label and make sure the date is in the future.

73,-Ralph KD1SM

Y2K Fleamarkets

21 May Flea at MIT Nick 617 253 3776

4 June Newington CT NARL
18 June Flea at MIT Nick 617 253 3776

County Hunters?

The Louisiana QSO Party 2000 will be held on 30 September. For full details and rules, see QST

How Radio Works Part II by Bob W1XP

Last month in Part 1 of this series we discussed how an electromagnetic wave is made up of time varying electric and magnetic fields at right angles to each other. We also discussed how electric and magnetic fields store energy and how moving these fields through space, moves the energy contained in the fields. We learned that the speed of propagation of the waves is the speed of light, and that the waves may be polarized, refracted or reflected. In this part I will discuss how the radio wave is attenuated as it is propagated though space. As we will see this is what makes radio work.

There are three regions in the study of the electromagnetic wave around an antenna. The first two are classified as the Reactive Near Field and Radiating Near Field, and the third is the Far field. The study of the Near Fields is very complicated and except for the discussion of how the electromagnetic wave is launched from a current carrying conductor in a later part of this series, we will not be concerned very much with the Near Fields. It is important to recognize that they exist. Especially when dealing with either very large or very small antennas. The extent of the near field (lumping the two regions together) is related to the size of the antenna measured in wavelengths. Very large antennas, in wavelengths, can have very large near fields. This can determine how the antenna is effected by its surroundings. But for now I would like to just mention that the two different near field regions exist and that the electric and magnetic field intensities in these regions very in different manners that in the far field region. In the Reactive Near Field, the electric field intensity varies as the inverse third power of the distance from the radiating conductor. In the Radiating Near Field, the electric field varies as the inverse second power of the distance. And, in the Far Field, the electric field varies as the simple inverse of the distance from the antenna. And there is the key. The electric field intensity varies as the inverse of the distance. Double the distance and you half the electric field. Since we know that the energy in the electric and magnetic fields are the same from our discussions in Part I, then we know that the magnetic field is also attenuated in the same way as the electric field. Power is related to the voltage squared, recall E squared, divided by R, so the power is diminished by the Square of the distance. The electric field intensity decreases as the distance, but the power density decreases as the distance, squared. This can be a point of confusion. It is important to note the difference and keep it straight when discussing the attenuation of the electromagnetic wave.

In free space, and that is where we need to begin, the electromagnetic wave propagates as an expanding sphere. You may recall the science or physics class experiment where a light source was shown through a small square hole in an opaque surface near a light source. This was projected on a second screen and the size, and intensity shown to vary as the distance between the screen and hole was varied. With just a ruler to measure the size of the illuminated square projected on the second screen, and the distance to the light source, it is easily shown that the area illuminated is a function of the distance squared. Now we can make the argument that the energy flowing through the hole in the first screen is constant as long as the light source does not change, and therefore the total energy that reaches the second screen is constant, but the area over which it is spread increases as the distance squared. So the energy density, energy per unit area., varies inversely as the distance from the source squared. The power collected by a receiving antenna of a fixed area is therefore an inverse function of the distance squared. This view of the radio wave front as the surface of an expanding sphere in free space with the surface growing larger and larger as the radius of the sphere expands is another way of seeing the relation of the signal level to distance from the source. [1] Note that in free space, the attenuation is not a function of frequency at all. It is just due to the simple geometrical expansion of the wave as it moves outward from the source. It is only when the electromagnetic wave starts to interact with the medium it is traveling in, that we experience attenuation beyond that predicted by the above mentioned behavior. That is the E and H (electric and magnetic) fields vary inversely as the distance. The power then var-

[1] Area of sphere equals 4 times Pi times the radius squared.

ies inversely as the distance squared. When we put something in the path of the wave, we can start to experience additional loss. That something may be oxygen molecules, water vapor, charged layers in the ionosphere, or solid objects like the earth, buildings, or vegetation. Under these conditions the attenuation may be frequency sensitive and we will explore some of these effects in a later parts of the series. You hear people talk about the losses being higher at the "higher" frequencies. For all practical purposes, at the frequencies in day to day amateur use below 10 GHz the lower atmosphere has no loss. There is substantial loss in the lower layers of the ionosphere which we will cover later. One possible reason for the feeling held by some, is that cable losses are higher at higher frequencies as are all circuit losses. Antennas may be effected by water on their surface, and wet vegetation in the signal path has higher loss. There is also a well known engineering equation that equates the " Path Loss " as follows:

PL(dB) = 37 + 20 x Log D + 20 x Log F (Free Space Path Loss)

Where PL is the loss in dB, 37 is a constant to make everything come out correct when the units are miles and MHz, D is the distance in miles, and F the frequency in MHz. Now you can argue that this clearly shows a frequency dependence to the loss of a free space path. In fact the 20 time the Log indicates a Frequency squared effect. (The 20 times the log of D is the distance squared term, but recall we are talking power ratios with dB). Well it turns out the equation is intended to give the path loss between two standard antennas. Such as half wave dipoles. As we change the frequency the size of our half wave antenna changes. In fact the effective size of the antenna is related back to the Near Field we were talking about earlier. This area changes as the square of the wavelength or frequency. So although the power density, watts per square meter, may be the same if we double the frequency our dipole antenna has one fourth the effective area, (effective aperture) and will receive only one fourth the power. Again note that this is a geometrical effect. We call it path loss, but the energy has not be loss as in a resistor converting it to heat, but we have just not been able to recollect it. Some of the losses mentioned above and that we will cover later, are true loss in that the energy is converted to some other form, usually heat.

So where is this discussion going you may be wondering? (Assuming you are still with me). Well I would like to give you an example of a communication system we might desire to set up. If we have a receiver that will give us a good signal to noise ratio with a -100 dBm signal and a 100 watt transmitter lets investigate how far we might be able to use this system. Now -100 dBm isn't the hottest receiver but we can argue we want a high signal to noise ratio, and it keeps the numbers simple. Our 100 watt transmitter expressed in dBm is +50 dBm. So the total loss we can have between out transmitter and receiver is -100 -(+50) = -150dB. So for the sake of argument, suppose we decide to connect the transmitter and receiver together with 600 ohm open wire line. We choose this line because we know it has very low loss. As low as any practical transmission line we can find. Now we determine from published data on this line that it has 2dB of loss per mile at 10 meters. So how far can we talk if we choose to use this to connect the two radios together? Well 150dB divided by 2dB/mile is 75 miles. Well that isn't bad I suppose. Not considering the cost of the line, let alone stringing it up for 75 miles. How much better can we do if we go down to 160 meters where the line loss is lower? Well at 1.8 MHz the same line has only 0.4 dB per mile of loss. That is much better. We have to buy and put up 375 miles of line. Now lets look at what we can expect if we connect our two radios together with two dipole antennas. We will assume they are in free space for the moment. This isn't much harder then putting up 375 miles of open wire line. From the equation above at one mile on 160 meters we have -42 dB of loss between our two dipoles. Wow, we only have .4 dB of loss in our transmission line. This isn't going to work well at all. Well let's see. At 10 miles we have 20 dB more loss between our dipoles, -62 total, but only 4 dB loss in our transmission line. At 100 miles we have another 20 dB of loss with the dipoles, for a total of -82 dB and the transmission line case is up to -40. Now here it gets interesting. If I go to 1000 miles between our dipoles the loss is now -102 total. But with the transmission line it is 1000 times .4, or 400!!! dB. With our dipoles we still have 48 dB of excess signal while we are 250 dB short in the transmission line case. What has happened? Well this is the whole crux of what makes radio work. With our transmission line system, every time I double the distance I double the losses, but with the free space radio system using the free space propagating electromagnetic wave, a double in distance only reduces the signal level by 6dB. The electric and magnetic field strength has only decreased by one half. To complete the ex-

ample, at 160 meters with two dipole antennas we can use our system to 251,000 miles, compared to only 375 miles in our low loss open wire line. At 10 meters the range drops to 16,000 miles, not due to anything other than the 10 meter dipole is a lot smaller than the 160 meter dipole, and therefore collects a lot less signal. Now lets look at another interesting aspect of this example. If we add a 1500 watt amplifier, we pick up about 12 dB of signal. Our 150 dB figure goes to 162 dB. So what is the advantage of the extra power to each system. Well the 375 miles goes to 405 miles, but the system with the dipoles goes to 1 Million miles. (Now we are stating to talk DX)! This is again because doubling the distance only halves the electric or magnetic field intensities. That is a 6 dB change in power. Remember E squared. So 12 dB is doubling the range and doubling again.[2]

Another example is to design a communications system that talks half way across the galaxy. Once you have built such a system and caught up on the QSL cards, you only have to add 6 more dB of performance to talk all the way across the galaxy. All of this is of course in free space. This is not unreasonable for the line of sight path to the repeater, or the path to satellites. Operating close to the MUF (maximum usable frequency)on HF can approach the free space losses. On the other hand, local noise, losses on reflection, ionospheric absorption, and many other problems make things harder as we will discuss in future parts of the series.

So what have we covered this time? We have discussed how the attenuation of the electromagnetic waves is a function of the wave front expanding as the wave is moving away from the source, and how this corresponds to the field intensities varying inversely as the distance while the signal power received on an antenna goes down as the distance squared. We have talked about how an electromagnetic wave is attenuated geometrically while a signal on a transmission line even of low loss is attenuated linearly with distance.[3] So it is really the low loss of the electromagnetic wave propagation at large distances that makes radio the practical thing it is. For if we wanted to talk to the other side of the world without in line repeaters in our transmission line system we would need a power of 10 raised to the 467 power. That is 10 followed by 467 zeros. Although some hams have been accused of running this much power, it really is an astronomical number. On the other hand working Australia with a 5 watt QRP rig when the ionosphere is right with 59 plus signals is not unusual for signals propagated via that mode. Radio can be so much fun. Especially when we understand how it works. In future articles we will look into the propagation of the radio wave, and losses that it may experience in more detail. In the next article we will look at how the signal is actually launched by the current flowing on the antenna. Till then 73 Bob W1XP

[2]It should be observed by this example, that short range systems work well with much less loss in cable, while the advantage of radio occurs when the range increases. Radio also offers the advantage (or disadvantage) of being open to other sources. We all hate the tangle of cords so short range radio connected devices are becoming popular although the engineering advantage is with cable. Cheap integrated circuit radios make this practical.

[3]It is interesting to note that if we have a truly loss less line like a possible super conductor, then the transmission line system is possible with a range across the galaxy and only the power necessary to override the receiver noise. Until we have the RF superconductors we won't worry about this.

From the ARRL Letter

PRESIDENT HAYNIE PROPOSES "THE BIG PROJECT"

ARRL President Jim Haynie, W5JBP, thinks Amateur Radio is on a roll right now, and he wants to harness some of that momentum to keep the hobby on the crest of the wave in years to come. Enter "*The Big Project*."

The Big Project—as it's being called for now—is a corporate-education partnership that Haynie views as nothing less than a bold investment in the future of Amateur Radio.

"Our school initiative would put Amateur Radio in the middle schools," Haynie explained today during a visit to ARRL HQ. "We're in the process of developing the framework for this at the moment."

The project, now in its early stages and under the guidance of ARRL Vice President Kay Craigie, WT3P, initially would attempt to raise $1 million in corporate and foundation contributions. The idea would be to not only develop a turnkey

Amateur Radio curriculum but to provide equipment to bring it to life in the classroom.

The ARRL Board of Directors will hear a progress report on The Big Project when it next reconvenes for its July meeting.

Haynie said the League does not want to reinvent the wheel. The Big Project hopes to borrow from the best of what's already in place in terms of programs that integrate Amateur Radio into the curriculum. As he sees it, Amateur Radio could play a role in helping to enhance knowledge of geography, math, electricity and electronics, and physics.

"We've consulted with a lot of teachers throughout the United States to help us with the curriculum," he said. The initial pilot project could involve from 300 to 600 middle schools across the US. "It's time to do some bold things," Haynie declared.

Haynie does not expect The Big Project to immediately generate huge numbers of new licensees. He likened the concept to contributing to a retirement plan. "This is long-term," he said. "This is not instant gratification. This is an investment in the future of Amateur Radio."

During his visit to HQ, Haynie said he thinks license restructuring has brightened the overall mood of the Amateur Radio community. "What I see in my travels throughout the country is a resurgence—a revival if you will—of excitement in Amateur Radio, and this is good," he said. "This is something we've needed for a long time."

As Haynie sees it, bringing The Big Project to fruition will continue to fuel the optimism that pervades the hobby. He says the League would be derelict if it did not take advantage of the opportunities The Big Project presents.

"Amateur Radio is on a roll right now," he said. "We want to stay on this roll of success."

SELECTIVE AVAILABILITY IS HISTORY

As of the first of the month, your GPS receiver became a whole lot more accurate. President Clinton ordered GPS selective availability terminated as of midnight on May 1.

Eric Lemmon, WB6FLY, called the action "a *huge* benefit to hams who are into APRS, because the SA error will no longer hamper its accuracy." Selective Availability was an error introduced for national security purposes. It prevented GPS from being as accurate as it could have been for civilian users. With SA turned off, accuracy is expected to be as much as 10 times better.

Harry Pyle, AB7TB, charted the error at the changeover. His data show the GPS error—typically in the 100 to 200 foot range—dramatically dropping to something on the order of from 10 to 20 feet when SA was turned off.

Chuck Heron, KD7BWG, suggests one area of caution. "Most topographic maps used in the United States are in NAD27 CONUS datum. Some of the newer mapping programs available for APRS and computer usage are in WGS 84 datum," he points out. Before attempting to use GPS for some coordinated activity, such as during a disaster response, Heron recommends putting all GPS units on the same map datum (this is typically done via a navigation setup screen on the GPS unit). This will put all users on the same page, so to speak, when using GPS coordinates in conjunction with hard-copy or CD-ROM maps.

More information on the elimination of SA is at: http://www.igeb.gov.--*thanks to Eric Lemmon, WB6FLY; Chuck Heron, KD7BWG; and Harry Pyle, AB7TB*

HAM RADIO ASSISTS INJURED CLIMBER:

Bill Manatt, KE6NHO, reports that Amateur Radio was instrumental in helping to rescue a mountain climber injured April 29 south of Iceberg Lake near the east face of Mount Whitney—the steepest face of the mountain. Amateur Radio operators, including Mike Franz, KA6HII, and Dave Whitaker, KO6ME, were involved in coordinating the helicopter rescue, Manatt said. The effort included at least one ham at the scene. Manatt said rescue traffic was being handled via the Mazurka repeater on 146.76, which is linked to the Little Lake 147.21 repeater, which he monitored. Manatt said the radio operator at the scene was having problems—possibly with weak batteries or a faulty antenna connection—and communication with KA6HII became increasingly difficult at one point. The injured climber was to be taken off the mountain by helicopter by midday on April 30. "KA6HII and the operator at the other end did a great job getting essential information," he said. "In addition, Mike Franz was a cool, efficient operator. He did a wonderful job coordinating the rescue."—*Bill Manatt, KE6NHO*

KENTUCKY HAMS RESPOND TO RAIL CAR INCIDENT:

Mercer County, Kentucky, Emergency Coordinator James Tewmey, KE4LZP, and Boyle

County EC Dave Spanyer, KD4POZ, were among amateurs in both counties who spent more than 24 hours on emergency communications duty after a rail car caught fire and forced an evacuation. According to information from the State of Kentucky, a chemical boxcar fire at a rail switching yard in Danville April 25 caused officials to evacuate everyone within a one-half mile radius. The fire involved sodium dithionite—a flammable chemical that can produce irritating, corrosive and possibly toxic gases. The car was later moved from the switching yard to a sparsely populated area south of Danville. A sharpshooter was brought in to shoot holes in the smoldering boxcar to accelerate a burnoff of the sodium dithionite inside. No injuries were reported in the incident.—*SEC Ron Dodson, KA4MAP*

QUESTIONS CONTINUE IN RESTRUCTURING'S WAKE

April 15 has come and gone, but the flow of questions about Amateur Radio "restructuring" has only slowed somewhat in the intervening days. ARRL-VEC Manager Bart Jahnke, W9JJ, says the most common question these days is: "When can I expect to see my new license grant from the FCC?"

"The answer we give is three to four weeks from the test date, possibly sooner," Jahnke said. As a result of April 15-16 weekend testing and upgrade processing, the ARRL-VEC anticipates seeing 10,000 or more license applications over the next week or so. "We had some 250 sessions scheduled for April 15, and they average perhaps 50 applicants at each," Jahnke explained.

"Based on gut feelings and a crystal ball, we conceivably could now have 10,000 new Generals and 5000 new Extras hitting the airwaves at roughly the same time," Jahnke speculated. That's just based on the first day or two of upgrading and testing under the new rules.

Other burning questions have had to do with operating privileges. Several callers have wondered if Technicians who pass the 5 WPM Morse code test (Element 1) may then operate on the Novice bands. The answer is yes. Such licensees no longer get a new license class—it would have been Tech Plus under the old rules—but they have the same privileges as current Tech Plus licensees.

At present, while such Element 1 credit provides new privileges for the term of the license, the credit—at least for now—is only good for 365 days for upgrading purposes. The League has petitioned the FCC to make Element 1 credit permanent.

The FCC last week made it clear that General class operators may not operate on the Advanced class subbands, however.

Other callers have wondered if they may use a *Certificate of Successful Completion of Examination—CSCE*—for an "old" amateur examination element under the new rules. In most cases, as long as the CSCE is not older than 365 days, it is still valid for equivalent element credit. For example, a Technician holding a *CSCE* for the "old" Element 3B (General written) may upgrade upon passing Element 1, the 5 WPM Morse code test, provided the CSCE is no older than 365 days. "An unexpired CSCE for Element 3B is valid for the new Element 3," explained Brennan Price, N4QX, the newest member of ARRL Field and Educational Services. In addition, unexpired CSCEs for Elements 4A and 4B together still confer credit for the new Element 4 (Amateur Extra written).

"On the other hand, an unexpired CSCE for the Advanced Element 4A by itself will earn, at most, a hearty handshake," explains Price, an experienced VE who's been helping to handle the backlog of inquiries. "Element 4A is no good without Element 4B."

AMATEUR RADIO PROMINENT AT NATIONAL HURRICANE CONFAB

The role of Amateur Radio in tracking and responding to hurricanes was highlighted during several presentations at the recent 2000 National Hurricane Conference. ARRL Public Service Specialist Steve Ewald, WV1X, was among the approximately 1700 people attending the annual gathering April 17-21 in New Orleans.

Ewald presented an overview of Amateur Radio disaster operations during a session on "The Role of Amateur Radio in Hurricane Communications" moderated by Dr. T. Michael Carter, N3PDK. Ewald discussed how the ARRL Field Organization, the Amateur Radio Emergency Service, and the National Traffic System are set up to respond to communication emergencies. He also focused on the role that ARRL Headquarters plays in hurricane-related threats and disasters.

Representatives from three hurricane-prone states—Florida, Louisiana and Mississippi—outlined amateur emergency response systems in their respective states. ARRL Florida District Emergency Coordinator Gary Arnold, WB2WPA, reviewed the very busy 1999 hurricane season. He noted that ARES and the Radio Amateur Civil

Emergency Service are virtually one organization in Florida. Amateur Radio operators are cross-trained in emergency operation center communications, Arnold explained.

ARRL Louisiana Section Emergency Coordinator Mark Ketchell, N5MYH, said work is progressing to revise that state's ARES plan, and neighboring ARRL section leaders have been invited to comment. He also displayed an example of the ARES, Civil Defense and Red Cross-sponsored announcement that is shown on local cable TV channels to increase public awareness of severe-weather readiness as well as of Amateur Radio.

ARRL Mississippi Section Manager Malcolm Keown, W5XX, noted that the threat of flooding and tornadoes spawned by hurricanes receives a lot of attention in Mississippi. Keown said Mississippi's amateurs strongly support the National Weather Service's SKYWARN program, and simulated emergencies there often focus on severe-storm scenarios.

Wide-area Amateur Radio hurricane operations were the focus of the presentation by Hurricane Watch Net Manager Jerry Herman, N3BDW. The Net was in operation for six storms during the 1999 season. After Hurricane Floyd hit the Bahamas and the US eastern seaboard, Herman explained, it became obvious that fresh-water flooding associated with hurricanes is a primary danger to inland as well as to coastal areas. Nearly two million people were evacuated from the path of Floyd, and 57 deaths were attributed to this powerful hurricane.

Herman also reported on Hurricane Lenny on behalf of Don McGehee, PJ8DM, on Saba, in the Netherlands Antilles. McGehee was unable to attend the conference. After the late-season Hurricane Lenny struck the Caribbean, it left Saba without any communications except those provided by Amateur Radio. With help from the Hurricane Watch Net, the League was able to quickly send its emergency 2-meter repeater to Saba. For about two weeks, the repeater served as the Saba government's primary communication system while the island's electrical systems and infrastructure were restored.

A later roundtable forum moderated by ARRL First Vice President Joel Harrison, W5ZN, also discussed the possibility of streamlining the process of setting up temporary third-party traffic arrangements during a disaster. Following Hurricane Lenny, attempts were unsuccessful to arrange a temporary third-party agreement between Saba and the US, despite efforts by ARRL and the Hurricane Watch Net. Those attending the session agreed that the benefits of such temporary agreements not only would help disaster recovery efforts but assist in dealing with handling health-and-welfare inquiries from the public via Amateur Radio.

In his presentation, American Red Cross Technical Communications Coordinator Steve Hailey, said Amateur Radio is a major resources for the Red Cross, especially right after a disaster. When the Amateur Radio station is activated at the Disaster Operations Center in Falls Church, Virginia, Hailey said, ARES/RACES provides the trained operators.

MOBAT TO MARKET NEW AMATEUR HF DSP TRANSCEIVER:

A new player is about to enter the Amateur Radio HF transceiver marketplace. Mobat Communication, a partnership of Motorola and Bartal, will debut the MICOM H transceiver at Dayton Hamvention. Based on a commercial-military design, the MICOM H is a computer-programmable DSP-based radio featuring 160-10-meter coverage and a general-coverage (100 kHz-30 MHz) receiver; 200 memory channels with channel scan; 125 W output; and an optional remote-control head. Operational modes are SSB and CW only (no AM or FM). The MICOM H is built in Israel and distributed in the US by Royal Communication Inc. It should be on the market by June. Price class is just shy of $3000. Visit Mobat's Web site at http://www.mobat.com/.

Secretary: Ian Norrish NZ1B
Treasurer: Ralph Swick KD1SM
Editor: Stan Pozerski KD1LE
Photographer Ralph Swick KD1SM
PIO: Jon Kinney N1JGA
Board Members
Earl Russell 1998
Bob Reif 1999
OPEN 2000
Meetings are held on the 3rd Thursday of the month - 7:30 p.m. - Pepperell Community Ctr. Talk-in 146.490 simplex

442.90 + 100Hz Repeater
53.890 – 100Hz Repeater

This newsletter is published monthly. Submissions, corrections and inquiries should be directed to the newsletter editor. Articles and graphics in most IBM-PC formats are OK. You can send items to pozerski@net1plus.com