Club Repeaters:
Erie:
146.610-
PL 127.3 hz
****
Waterford:
146.82-
PL 186.2 hz

QUARAE

RADIO ASSOCIATION OF ERIE

Volume 5, Issue 4

April 2006

Surprise EMA Exercise Simulates Regionwide Terrorist Attack.

The Erie Co. (Pa) Emergency Management Agency surprised the local ham radio community on Tuesday, March 7, with a multi-county terrorist exercise involving a simulated school shooting in northwest Crawford County and a simulated bombing of the emergency room at St. Vincent hospital in Erie.

While EMA leadership developed a response and guided the hypothetical response by public safety personnel, members of a private assessment team observed and recorded every aspect of that response for later evaluation.

Beyond the 'activation' of the Erie County Emergency Operations Center, no equipment, personnel, assets or other resources were actually deployed.

Every move made by personnel in the EOC was video-recorded along with audio.

Part of the exercise involved the lack of pager or cell-phone service for notification, requiring ham radio operators to use their repeater frequencies to gather operators and make inter-county connections. Only after the exercise was well underway, was pager service 'restored' to the scenario.

Over twenty hams responded to the callout, using five different repeaters and HF to contact operators in Crawford and Venango Counties. Included in those operators were members of the OPERATIONS team, the active EMCOMM group of Ashtabula County in Ohio, and in Erie County, PA.

Dave Wellman, WX3E, E.C. for Erie Co., stressed the importance of monitoring local repeaters, as no single alert method can stand alone for fail-safe notification. Dave was also gratified that several operators volunteered to go mobile to locations in Crawford Co. to contact public safety units, and to provide communications.

The ARES/RACES leadership team members wish to express their profound gratitude and appreciation to all those who took time out of their daily activities on very short notice to check in and make contacts. On behalf of the ARES/RACES/SKYWARN group in Erie Co. (Pa), thanks to all hams who contribute their time, energy and financial resources to the maintenance and growth of ham radio infrastructure in the area.

Just a Reminder …
The April RAE Club Meeting is this Thursday!

The Radio Association of Erie
April Meeting will be held on
April 6th at
7 pm at the Red Cross Office located at
4961 Pittsburgh Avenue located off of
West Grandview Boulevard

Hope to See You There!!

Index

Officers and Contacts — 2006

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Upcoming Events

Thursday April 6th—
RAE Monthly Meeting - 7 pm
Location: Red Cross 4961 Pittsburgh Ave, off of West Grandview Blvd.

Tuesday April 25th —
Board of Directors Meeting (Tentative) - 7 pm
Location: Location: RAE Clubhouse on Wagner Rd which is off of Bargain RD off RT 99

March of Dimes Walk America Public Service Event

The warm weather is here finally! . The RAE's first public service event of the year will be Walk America. It is the largest and most successful annual fundraiser for the March of Dimes. Walk America brings out almost 4,000 walkers in Erie County to help raise money for the fight against crippling birth defects.

KE3V and N3LBI enjoyed helping out at the March of Dimes Walk Last Year.

This year's Walk America is scheduled for Sunday April 30th at 1:00pm on Presque Isle State Park, beginning and ending at Waldameer's Rainbow Gardens.

If you would like to help out at this fun event, a sign up sheet for the event will be available at this months club meeting or you can contact Bob Fuller N3LBI at 899-1115 Or via e-mail at n3lbi@adelphia.net

RADIO ASSOCIATION OF ERIE
AMATEUR RADIO EMERGENCY COMMUNICATIONS

March 2nd 2006 General Membership Meeting Minutes

Radio Association of Erie
General Membership Meeting Minutes
March 2nd, 2006

The meeting was called to order at 7:05 pm by KE3V.

Board Members present included: KE3V, N3ZNP, N3NKV, WB3DOM, KC2HVX and KB3JSN, KD3D

Board Members not present: N3LBI

New Calls: None
Guests: None
Silent Keys: None
Upgrades: None

Secretary's Report: N3NKV asked for a motion to approve the minutes of the February 2005 meeting as printed in the February QUARAE. W2FD noted an error in the minutes that he was not the winner of the 50/50. The actual winner was KB3NAT and the amount was $11.50. WB3DOM made a motion to approve the minutes with change and seconded by KB3JSN. Motion Carried.

Treasurer's Report: KD3D provided the Treasurer's Report.

Board of Director's Report: N3NKV provided an overview of the board of directors meeting. Topics discussed included: the new listserv, Saturday Club meetings, clubhouse fuel tank donation and tri bander repair.

Membership: KE3V reported that we have approximately 98 members.

Repeater: N3NKV reported that the St Vincent Voter just went down this evening and that it was being looked at. KB3CAT mentioned that it was being taken over to N3APP's for repairs.

Skywarn: KB3JSN mentioned that Skywarn training is set for April 12th at Hamot.

QUARAE- N3NKV mentioned that he needed more articles for the QUARAE.

Website: N3NKV mentioned that the website has been updated. N3NKV also mentioned that the Club now has a e-mail listserv again. Details on how to join it appeared in the QUARAE and on the Web Site.

Old Business:

Tribander for Club House– Jerry W3FD mentioned that he has all of the parts to put the tribander back together.

New Business:

FISTS Number: WB3DOM mentioned that he has applied for a FISTS number for the club

Saturday Club Meetings: KE3V mentioned that May Meeting would be held on the First Saturday of May instead of the first Thursday. Meeting to be held along with swap and shop tailgating and hot dogs for lunch.

50/50 winner: Neil N3ZNP $12.00

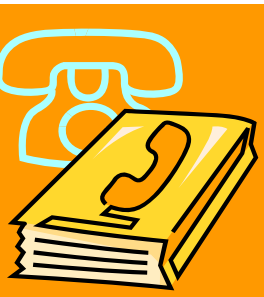
Motion to Adjourn at 8:15 pm made by NI3Q seconded by WB3DOM

Program: K3UFG put on a presentation about the communications infrastructure used by the Red Cross during Hurricane Katrina

Respectfully Submitted,

John Lis
Radio Association of Erie Secretary

The Latest Issue of The RAE Directory is now available on the Members Only Website in PDF Format



EMCOMM Workshop Draws Over 20 Hams

Over twenty hams attended the first Emergency Communications Workshop, held February 17-19th at the Edinboro Municipal Building.

Conceived and designed by Dale Robinson, KB3LSV, and Deputy Director of Emergency Management, the Workshop was sponsored by the Public Safety Institute at Mercyhurst College.

Following the basic structure of the Amateur Radio Emergency Communications Course (ARECC) developed by the ARRL, the Workshop focused on the attitudes and mindset of ARES/RACES/ SKYWARN operators as they train and deploy. Hams who reside along the North Coast will be interested to know that Dr. Tom McClain, N3HPR, and former ARES/ RACES E.C. for Erie County, Pa, had a significant role in developing the ARECC three-level curricula.

Course emphases also included the areas of operator readiness, message handling, EMA forms and formats, and served-agency relationships. Each operator in attendance received copies of the 3rd Edition of ARECC Level I, the latest version of the ARES Field Resource Guide, and Robinson awarded door prizes.

Steve LaJohn, N3SRD, Erie Co. SKYWARN E.C. and EmergyCare veteran medic, and Bill Marshall, KB3JSN, Public Information Officer joined Robinson in the presentation of the Workshop.

The instructors wish to thank the Public Safety Institute at Mercyhurst College, Erie Co. EMA, the Borough of Edinboro, and especially all those who attended and supported the workshop for their efforts, guidance and assistance.

Erie County Skywarn Training Schedule for April 12th

SKYWARN operators who have not attended training in the past two years need to sign up for the SKYWARN training class to be held at 1800 EDST at Hamot Auditorium on Wednesday, April 12.

Gary Garnet, meteorologist with the National Weather Service Forecast Office in Cleveland will begin the training at 1830 EDST, following registration.

All SKYWARN operators, or those interested in becoming trained are encouraged to attend. Attendees invariably gain new information from these classes, even if they have participated recently.

Tentatively, WJET-TV and WSEE-TV have scheduled media coverage of the class.

There is no cost for the class, and no exam will be given. The program usually lasts approximately 2 hrs, and refreshments will be available for a donation.

The public is invited to attend, and interested parties are requested to pre-register by contacting Steve LaJohn, Erie Co. (Pa) SKYWARN Emergency Coordinator at slajohn@adelphia.net.

Ripley Hamfest

Bring Your Ham Radio, Computer Gear, and Electronics leftovers to Ripley and make a few bucks!

Sunday May 7th, 2006 -- 7:30 am to 11 am

Ripley Fire Hall , Ripley, NY
3000 feet south of the only traffic light in Ripley at Rts 20 & 76

Cash Prizes

Food and Beverages will be available

Admission: $3.00 — Tables: $3.00 each

Talk-In on 146.58 simplex

****

For more Information Call or E-mail:
N3MLX Joe Lis 814-825-5565 – n3mlx@adelphia.net
N2LXD Fred Krause 716-736-4688– emily2@cecomet.net

Online at: http://ripleyhamfest2006.bravehost.com

Is Your Information Up to Date?

As an RAE member, did you know that you have access to the RAE directory online?

If your address, phone number, or e-mail address has changed, please update this information via the web site. We are in the process of updating our member database. It is greatly appreciated.

If you need your username and password to the website, please contact John Lis N3NKV or Bob LaPlaca KC2HVX.

Antennas by Gerry Otteni W2FD

Low gain, steerable arrays of Beverage antennas or other inefficient but highly directive antennas are very popular as receiving antennas particularly on 160 meters where it is difficult to get efficient, low elevation coverage antennas. The Beverage is basically a vertically polarized antenna which can produce narrow azimuth and elevation beamwidths with low level backlobes and sidelobes and improve on signal to noise ratio input to the receiver compared to a more efficient, low gain antenna.

Using an antenna with low backlobe or sidelobe response can reduce external noise and interference if that noise or interference is mostly localized in the sidelobe or backlobe region of the antenna pattern. It would be ideal if we could place a null in the antenna pattern in the direction of a particular interfering signal or localized noise source. Thus, a manufacturer's claim that its "beam" antenna works better because it has a higher front to back ratio may be valid only if the noise source or interference is localized in the back direction where the antenna gain is minimized.

Transmission Line Loss

The preceding section on the receive antenna and noise was simplified in that the noise generated in a lossy transmission line was neglected. If a transmission line connecting the antenna and receiver has high attenuation, it will cause both the signal and noise powers output from the antenna to be decreased by the same amount at the receiver but it also will add additional broadband noise dependent on the amount of attenuation. This added noise will cause the signal to noise ratio at the receiver to be degraded. This decrease in SNR can be minimized if a low noise preamplifier is placed at the antenna to boost the signal and noise from the antenna to a level such that the noise generated in the lossy transmission line does not contribute significantly to the total noise power. Using a low noise amplifier is generally done at the higher frequencies for two reasons: Transmission line losses are generally higher and the noise output from the antenna is generally lower at the higher frequencies. An example of bands where preamplifiers are used would be the TV or FM spectrum when long transmission lines are necessary and the antenna SNR can be "maintained" with a low noise amplifier.

Definitions

Antenna Radiation- **Antenna radiation is the process by which unguided electromagnetic energy is emitted from an antenna structure.**

A transmit antenna radiates the power input to the feed terminals by converting the resultant currents on the antenna to electric **E** and magnetic **H** "fields" which leave the antenna structure and propagate as a wave through space. In the "far field" (a large distance R in terms of wavelength from a localized antenna), the wave front is essentially spherical with the "phase" of the wave being constant on a spherical surface. The phase of the wave front is directly proportional to the distance R (phase = kR with k, the propagation constant) and the "amplitude" of each of the fields is inversely proportional to R . The electric and magnetic fields are at right angles to each other in space and the relationship between their magnitudes is E= ZH where Z is called the "impedance of free space" and is approximately equal to 377 ohms. That wave may also be considered as a "plane wave" when the radius of the sphere R is very large and the surface at a point on the sphere is essentially a plane surface. In this case, there is little variation of field strength magnitudes with relatively small changes in radial distance although the phase of the wave still has the same variation kR .

Polarization- **Polarization is the description of the direction of the electric field for an electromagnetic wave at a point in space.**

The polarization of a plane wave is usually defined in terms of the direction of the electric field. If the electric field at a point in space maintains the same direction with time, it is called linear polarization. Examples of linear polarization are the common vertical or horizontal polarizations or a polarization where the electric field may be slanted between vertical and horizontal. Other polarizations may be classified as elliptical polarization where the locus of the electric field vector traces an ellipse in space with a rotation frequency equal to that of the RF (radio frequency). Elliptical polarization can be thought of as the result of two perpendicular components of the electric field (e.g. vertical and horizontal) with a phase shift between the components.

Continued on Page 7

Antennas continued by Gerry Otteni W2FD

In the special case where the amplitudes of the components are equal and the phase difference is 90 degrees, a right or left hand circular polarization results with a constant magnitude electric field rotating with a rotation frequency of the RF.

It is important to match the polarization of a receive antenna with the polarization of the incoming signal particularly for line-of-sight communications—for example, one would not want to use a vertically polarized antenna to receive a horizontally polarized transmit signal unless scattering from objects on the ground caused a change in polarization. That fact is particularly evident with 2-meter FM repeater operations where the antennas are designed with the vertical-antenna mobile in mind and vertical polarization is the norm even when a Yagi is used. On the other hand, 2-meter CW and SSB operators may use horizontally polarized "beams" for short or long distance communications.

The situation may be different in the lower frequency HF bands and with ionospheric propagation. It is still important to match polarization for line-of-sight or close communications. The experiences of amateurs over many years indicate that it is generally more important to obtain low elevation angle coverage for good, long distance ionospheric communications. The signals one receives tend to be varying combinations of vertical and horizontal polarization (slant or elliptical) due to propagation through the ionosphere.

On the average, horizontal or vertical polarization tends to produce similar results as long as the antenna has good coverage for the ionospheric path. There probably are times and ionospheric communications paths where vertical or horizontal (or elliptical) polarization is dominant but these situations are not apparent to most amateurs. It should be noted that a horizontal or vertical antenna will receive an incoming circularly polarized (or slant 45 degree) signal with only 3 dB loss compared to receiving all the incident power available.

Radiation Pattern - **Antenna radiation patterns are the descriptions of the radiation properties of an antenna as a function of angle.**

The properties measured may be the electric field strength, power density, polarization and phase. The most common pattern for amateurs is the power density or power radiation pattern, which describes how the radiated power is distributed as a function of angle.

An antenna power radiation pattern is usually measured with a "probe" in the "far field" on the surface of a sphere. A sufficiently large radial distance is chosen so that the relative power measurements obtained for the points on the sphere described by two angles of the spherical coordinate system are the same as they would be for much greater distances. The angles commonly used to specify a point on the sphere in spherical coordinates are the zenith angle (angle from the vertical—theta) and the azimuth angle (phi). It is also quite common to take an elevation "cut" holding the azimuth angle fixed and varying the zenith angle. Another common pattern is an azimuth "cut" holding the zenith angle fixed and varying the azimuth angle. In practice, these patterns are usually taken by using a positioner or rotator to position the antenna under test at the proper angle with a fixed probe in the antenna far field.

More to Come next month.

Become a Member of the RAE ListServ

Anyone can join, you do not need to be a member.

We discuss Amateur Radio related items, club activities, etc.

To join, send an e-mail to: raerie-subscribe@jjlis.com, with the body of your message containing the following: 'subscribe raerie first-name last-name'.

Radio Association of Erie
P.O. Box 844
Erie, Pa 16512

Swap and Shop

For Sale: Linksys Firewall/Router BEFSX41, EtherFast 10/100 Cable/DSL, like new, original carton, with 4-port switch, software, power supply,RJ45 cable. Original price $60, asking $25 OBO. Not wireless. Contact Bob Schwimmer N3FAW via e-mail at bobn3faw@verizon.net or at 866-3027

The RAE has have been asked by the heir to K3IVG's estate to try to liquidate the equipment on the list below. Some of the equipment was probably owned by Joe's son in law, Mark Bronson AA3UF (SK) (formerly KD2HG). All the items are now either on the front table or on the table adjacent to the entry door in the club room at the clubhouse. Some of the items available include: 2 meter and 440 meter amplifiers, a multimeter, and various odds and ends. For a More Complete list, please contact Bob Fuller N3LBI at 898-1115.

Tower Needed for Clubhouse Antennas

The RAE is need of 4- 10 foot sections of tower for the Club Station Antennas out at the clubhouse. If anyone would like to donate a tower to the club or has any leads on a tower that needs to be taken down, please contact Bob N3LBI at 898-1115