



MINNESOTA MARSGRAM



Information for Minnesota Navy-Marine Corps. MARS Members

November, 2005

Volume 9, Number 11

NNN0ALL Minnesota

by NNN0GAZ Tim

Greetings, this year it seems that there is a never ending supply of tropical storms. Katrina, Rita, Wilma and now, for the first time the National Hurricane Center has run out of names and we're using the Greek alphabet. Thankfully the usual end to the hurricane season is fast approaching.

The recent disasters have gotten the attention of many people – some in a very positive way – others in a rather annoying way. Over the course of the past two months inquiries about community preparedness and emergency operations plans among other things has been on the rise. This has both a good side – people are at least talking about it and a bad side – the overwhelming belief that local, state and/or the federal government should/will take care of us.

I've got news for people – the general rule of thumb in emergency management has been and will continue to be that individuals, private entities and communities need to be prepared to take care of themselves, without assistance from anyone for up to 72 hours. Of course the 72-hour time line will also depend on the scope of the disaster – you could find yourself looking at 96 or quite possibly 120

hours without assistance. Are you prepared – do you have provisions – water, food, the basics for you and your family to survive at least 72 hours without assistance? If you don't I encourage you to visit www.ready.gov. Much of the information on this site was compiled in preparation for Y2K – in view of recent disasters both natural and man-made – the material is still applicable.

... what did people do before FEMA?

Why do I raise this issue? There seems to be an overwhelming belief on the part of the general population that the government – local, state, or federal it doesn't matter – has the responsibility to provide for the wants and needs of each and every citizen that is affected by the disaster. This simply is not true. Depending on the type of disaster and its scope – it can take time for responders to arrive.

Mobilization will begin almost immediately but getting into the

disaster area can be dangerous and time consuming. While we are not in an area prone to hurricanes, we have seen and felt the effects of both summer and winter storms – sometimes it takes more than a week to have power restored in areas of our most densely populated metro areas. Again – are you prepared?

I've also asked myself what did people do before FEMA? FEMA has only been around since the late 1970's. Before FEMA, response to disasters was handled by a number of different federal agencies in most cases focusing on specific aspects – small business, flood insurance, etc. – there was not a unified system of disaster response and recovery. Overall I have to believe that communities figured it out on their own and got the job done – neighbor helping neighbor – and you learned to be resourceful.

Another point I would like to make is this...how organizations and communities respond in the first minutes and hours will determine how well they handle the 72 hour period. Those

GAZ cont'd pg. 2

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Content Contributions Welcomed and Encouraged

MINNESOTA TRAFFIC NETS

Designator	Frequency	Local Times
5G1B	Pri. NCE Sec. NBG Ter. NAR	18:30 Daily

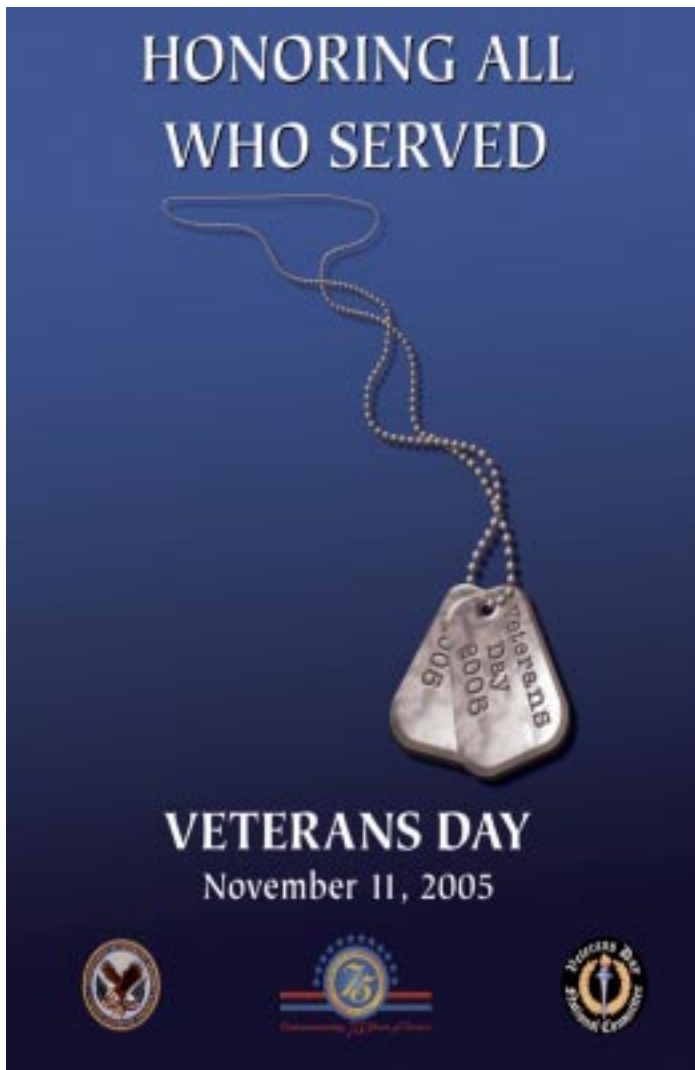
MINNESOTA ADMIN. NET

5G4A	Pri. NCE	19:00 2nd Sunday
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MARS DATA SYSTEM

	Frequency
NN0DVD	NCO AFSK/USB

Intranet site <http://www.communityzero.com/mnmars>



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GAZ cont'd from pg. 1

organizations and communities that have actively participated in training and exercises will be able to formulate their response and maintain some semblance of order for that period where they are on their own.

This brings up the necessity for training and exercises. Have you completed any of the independent study courses offered by FEMA – “*Are You Ready? An In-depth Guide to Citizen Preparedness*” (IS-22); “*Introduction to the Incident Command System*” (IS-100), “*National Incident Management System-NIMS*” (IS-700)? If you haven’t looked at the FEMA Education site - <http://www.training.fema.gov/EMIWeb/IS/> - then I encourage you to do so.

Training is but one component. Using that training in exercises is important as well. We provide members with

As the Boy Scouts say – “Be Prepared.”

ample opportunities to test their training and readiness through our quarterly exercises. To those of you who participated in the third quarter exercise – thank you for taking the time to prepare and participate – your participation was and is appreciated. We look forward to your continued support in this area.

You should also be aware that there is legislation in progress to make some FEMA courses a prerequisite to being allowed into a disaster zone – that DoD Identification Card won’t mean anything if you don’t have the know-how to back it up – and once the incident has occurred is not the time to try and get the training. As the Boy Scouts say – “Be Prepared.”

I encourage you to take some time and explore the information on sites listed here. Preparing a box of basics for use in a disaster isn’t a waste of time or money. Venturing out to the FEMA education website is easy and the courses are not difficult – you would be surprised at the insights you may gain into the emergency management system. If you complete a FEMA course don’t be afraid to let me know – a copy of the training certificate can be placed in your MARS personnel file. Did I mention that - FEMA acknowledges the successful completion of their independent study courses with a certificate of completion? Try it – you might like it.

Finally, as the days get shorter and the evening temperatures are a little colder, remember the 5G1B meets every evening at 2330Z. Don’t miss the opportunity to participate in an evening net, an ecom exercise, or just a friendly round of comments and conversation with your fellow MARS members.

Enjoy this issue of the Minnesota MARSGRAM.

BT OVER

Future Challenges for MARS

Bill Sexton, N1IN/AAA9PC
WorldRadio October 2005

Not that anybody really needs reminding. But for Hams looking into the future of the Military Affiliate Radio System, it's not a bad idea to review the very beginnings of Amateur Radio. There's an important lesson for us there.

I'm indebted to David Bower, K4PZT, an amateur for nearly half a century, for recalling the ancient era when vacuum tubes began replacing the original spark gap transmitter. "For a while, Hams either communicated using 'spark' or 'CW'." Bower recently noted (in *The DX Magazine*), "With time, spark largely disappeared from the annals of communication."

And that's the lesson: Radical, irresistible change has been at the core of our hobby from its very beginning. Change is what pushes technology forward. Yes, sometimes it can be uncomfortable - as a few older Hams will remember when Sideband superceded AM.

Within MARS, who can forget the dismay so many members felt when Morse code was banished from the federal government's frequencies (including those assigned to MARS)? Or the deep disappointment when MARSgram morale-and-welfare traffic was largely supplanted by e-mail and the cell phone in Afghanistan and Iraq?

Now there are at least four new transitions to cope with in MARS. They're not going to be without challenge. Let's look at them one at a time, keeping in mind that change is the name of the game.

Digital Traffic: One of these transitions, to digital message handling as a replacement for CW (and, latterly, for voice) has been underway for years. What's new is the growing predominance of the latest digital modes. This became particularly evident this past summer during the Grecian Firebolt-05 exercise that Army MARS members annually share with Army Reserve units across the country.

Packet of course has long been with us and probably has a bright future on VHF. During GF-05 one VHF packet circuit handled well over 1,000 messages that originated from MARS volunteer members around the country, were processed through the MARS Eastern Area Gateway Station at Ft Detrick, MD and then forwarded to the MARS exercise team at Ft Meade. If anything came out of the exercise, it is the need for still more VHF channels (on which more later).

As for HF, the advanced PACTOR modes (II and III) along with MT63, PSK31 and Automatic Link Establishment are steadily moving to the forefront. They're ever so much superior to voice in terms of speed and reliability under difficult conditions, and so much more dependable

than RTTY.

ALE is likely to prove most useful for moving traffic between MARS nets and the National Guard and other federal entities. To a large degree these MARS customers have already adopted it as their preferred HF messaging utility. ALE offers the reliability and availability of HF without the need for trained operators (thus the government's discontinuance of CW operating) or the constant monitoring of multiple frequencies. With ALE, the operator selects the best frequency in his system, links automatically to the desired station on the net, then passes traffic as appropriate whether by voice, PACTOR, PSK31 or the swift PSK protocol known as Federal Standard-1052.

The good news here is that by the time this column is read, the Army MARS ALE development team should have published free software that enables virtually any personal computer of recent manufacture to link with these customers via typical Ham transceivers. The only additional equipment is a sound card and computer-radio interface, neither a big-ticket item.

During GF-05, the MARS mobile "flyaway" emergency communications station owned by a volunteer MARS member was deployed to Ft Meade. Links were established to the Department of Homeland Security's SHARES master station in Virginia, the Federal Emergency Management Agency's Mobile Emergency Response support unit in Denton, TX; Ft. Dix, NJ; Ft. Detrick, MD; and the 311th Theater Signal Command. A separate demonstration operation sponsored by the MARS ALE development team relayed 76 messages from state nets.

Meanwhile, sound-card modes like MT63 are gaining a foothold in state traffic nets, and the advanced PACTOR modes - though they require a relatively expensive controller - provide dependable high-speed links between state, region and gateway stations. "The MT63 digital mode proved to be the best FEC (forward error correcting) mode," reported Eastern Area Coordinator Robert Hollister after GF-05, "and PACTOR III is tough to beat for ARQ mode in both accuracy and throughput."

Added James Banks, Western Area Coordinator: "More members with digital sound card capabilities were noted. MT63 and PSK31 were heavily used."

Frequency stability: For several years now, those MARS members authorized to participate in the government nets operated by FEMA and the National Communications

Future cont'd on pg. 4

Future Challenges *cont'd from pg.3*

System (SHARES) have been required to conform to the stringent frequency stability standard imposed on federal agencies by the National Telecommunications and Information Administration. Other MARS stations - the great majority - were grandfathered from this regulatory ruling for the time being. Army MARS Chief Bob Sutton recently alerted members that the grandfathering period for MARS nets is coming to an end. "All MARS members should consider this standard when purchasing new equipment and should meet this standard no later than 01 January 2008," he announced in a recent message to the membership.

The NTIA specifies frequency stability within plus-or-minus 20 Hz. Compliance requires use of certain newer transceiver models or, considerably less expensive, the installation of TXCO units in applicable older transceivers. The list of acceptable transceivers is available at <https://lntc.cap.af.mil/index.cfm>.

Is there a rationale for such a drastic change? From the government's viewpoint, elimination of adjacent channel interference and facilitation of automatic linking justify the requirement. And though the 2008 deadline comes across as a considerable jolt now, it has been in the cards since 2000. MARS participants in the NCS SHARES nets and FEMA have been complying since 2002.

VHF channelization: That same 2008 date has been adopted by the Department of Defense for changing VHF operations to narrow channel. The existing 25 kHz channel spacing will be cut in half to 12.5 kHz. This means outright replacement of equipment, including repeaters.

"The purpose of this change is to provide more channels in an already congested spectrum," Chief Sutton said. "Several states have already begun shifting their repeater frequencies to meet this plan and are planning to purchase new repeaters." Conforming VHF equipment is already on sale and this list can also be found at <https://Hntc.cap.af.mil/index.cfm>.

Change of Command: While Bob Sutton was at Ft. Meade, MD during the Grecian Firebolt-05 exercise he made it known he'd be retiring as Chief of Army MARS within the coming year. Sutton, who turned 64 in August, has held the Chief's post since 14 Dec. 1989. (His membership in MARS dates back to 1961 when he was serving in the U.S. Air Force.)

The centerpiece of his 15-year tenure has been transferring the rank-and-file focus from handling morale-and-welfare traffic to the nation's emerging need for emergency backup communications. Linking servicemen with their loved ones by MARSgram and phone patch may have been deeply



The U.S. Navy flight demonstration team, the "Blue Angels," conduct a final pass during their performance at the Marine Corps Air Station Miramar Air Show. The Blue Angels fly the F/A-18A Hornet, performing approximately 30 maneuvers during the aerial demonstration lasting over an hour. The Miramar Air Show is celebrating its 50th Anniversary and is part of the San Diego Fleet Week, a month long celebration of Southern California's Navy and Marine Corps personnel. U.S. Navy photo by Photographer's Mate 2nd Class Scott Taylor

rewarding for the members. After the 1991 Gulf War, however, much of that mission was overtaken by inexpensive phone cards, cell phones and e-mail - that and the lack of familiarity with HF radio among younger Army commanders.

Besides, when the Army first welcomed Hams into a support role back in 1925, the purpose was to provide radio operations training to the Army and emergency communications backup. That priority has never changed. Under Sutton's leadership, MARS training has concentrated on emergency operations for the past decade.

Sutton reflected on the new situation in a column published in this space last August. As the next step in preparing for this role, he urged MARS members now to take the initiative in contacting local and state emergency services, familiarizing them with MARS capabilities, and working directly with them to develop integrated operations. "There lies the success story for MARS," he concluded.

- BT OVER -

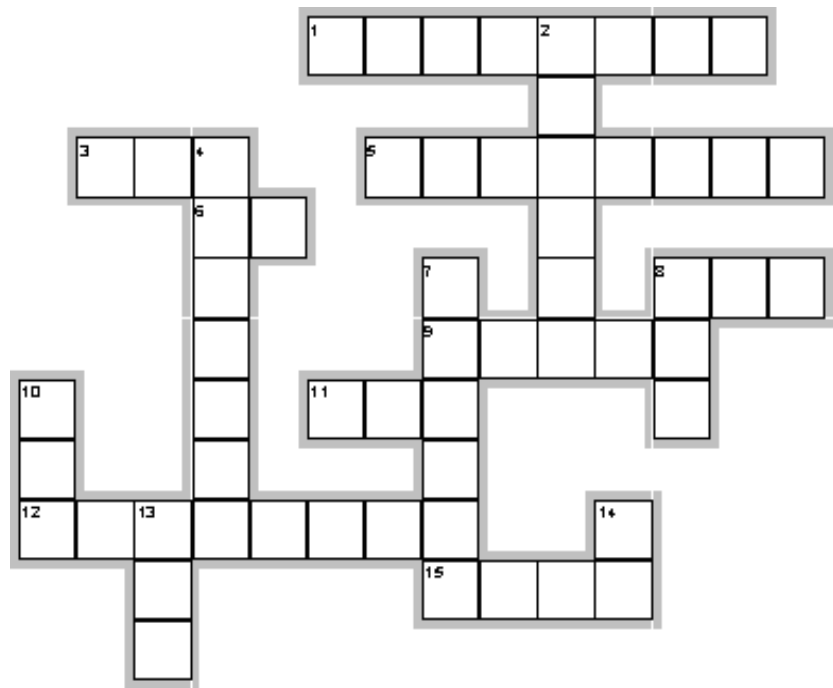
Digital Knowledge

Across

1. Digital relay
3. Allows error correction without a retry (abbreviation)
5. Error checking calculation
6. Opposite of AND
8. Controls level automatically
9. Digital HF mode (abbreviation)
11. Wired network
12. The underlying code that makes the system work
15. Oldest electromechanical mode (abbreviation)

Down

2. Group of bytes transporting data on a network
4. Establish a link
7. Sign-on message
8. Request repeat automatically
10. Place for posting bulletins
13. Encode by changing frequency
14. Alternating teletype mark-space



Created with EclipseCrossword — www.eclipse-crossword.com

HAPPY THANKSGIVING

November Crossword Solution AC Fundamentals

Across

1. TRANSFORMER—A device consisting of at least two coupled inductors capable of transferring energy through mutual inductance.
5. RESONANCE—The condition in an AC circuit containing both capacitive and inductive reactance in which the reactances are equal.
8. CURRENT—The rate of electron flow through a conductor.
11. RESISTANCE—Opposition to current by conversion into other forms of energy, such as heat.
12. CAPACITANCE—Ability to store electrical energy in an electrostatic field.
13. VOLTAGE—Electromotive force or electrical pressure.
14. POWER—The rate of electrical energy use.

Down

2. FREQUENCY—The rate of change of an AC voltage or current measured in hertz.
3. RMS—The square root of the average of the squares of the instantaneous values for one cycle of a waveform.
4. PERMEABILITY—The ratio of the magnetic flux density of an iron, ferrite, or similar core in an electromagnet compared to the flux density of an air core, when current is held constant.
6. REACTANCE—Opposition to alternating current by storage in an electrical field or magnetic field, measured in ohms.
7. FLUX DENSITY—The number of magnetic-force lines per unit area. Measured in gauss.
9. IMPEDANCE—The complex combination of resistance and reactance measured in ohms.
10. INDUCTANCE—The ability to store electrical energy in a magnetic field.



Q: Why Did Pilgrims' Pants Always Fall Down?

A: Because They Wore Their Belt Buckle On Their Hat.

Grecian Firebolt Strikes Accord

October 2005 - By Jeff Hawk - SIGANL Magazine

As the military looks to commercial technology to help satisfy its communications needs, U.S. Army reservists working in the private sector are bringing a welcomed source of knowledge to the table. Grecian Firebolt 2005, one of the nation's largest annual training exercises for Army Reserve communicators, highlighted the ever-closing gap between military know-how and innovative commercial solutions.

And, as more federal and private sector players enter the military operational scene, the effort to connect disparate systems is being embraced by a military now more prone to share information than to cloak it. "This exercise is a way to bring out all the disparate systems and find workarounds," says Lt. Col. Bernard Smith, USANG, operations chief, 311th Theater Signal Command (TSC), Fort Meade, Maryland. "Deploying all these diverse technologies under the [U.S. Defense Department's] security provisions validates the move to the Global Information Grid," he adds.

It also validates the ability of Army reservists to collaborate with real-world players. Many reservists who work in the information technology industry bring their civilian skill set and market knowledge to a military now hungry for commercial off-the-shelf options, Col. Smith says. The 311th TSC and its subordinate units provided command, control, communications and computer support through a theater communications control cell to Grecian Firebolt activities and to five other exercises across the country. They included Golden Medic 05 in Wisconsin and Georgia; Quartermaster Logistic Liquid exercise in New Jersey, Arizona and Massachusetts; Joint Thunder 05 (JT 05) in South Dakota; Desert Warrior in Texas, Arkansas and Arizona; and Alamo 05 in Ohio, Indiana, Texas, Michigan and Virginia.

Exercise planners charged the 311th TSC with providing a reliable communications infrastructure to all participating units and agencies. That included five remote detachments from the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) and a 5,000-volunteer-strong network of military-certified amateur radio operators with the Defense Department-sponsored Military Affiliated Radio System (MARS) program.

To string everyone together, the 311th TSC tested several modes of communication, including very high frequency (VHF); tactical satellite; remote videoconferencing; and voice, data and video over Internet protocol (IP) technology. The exercise validated data, voice and video over IP transmissions, says Maj. Michelle Perry, USAR, the 311th TSC's exercise officer in charge. She is also a military network engineer. "Voice, video and data are coming together, and everything is IP-based," she says.

The unit expanded its IP capabilities this year, pushing out beyond TSC to other command units, Maj. Perry explains. The unit's theater communications control cell programmed network routers with IP addresses to ensure secure nonclassified and Secret communications.

"We tried to run a really tight information assurance section," she adds. Theater communications control cell network administrators required exercise participants to use password-protected computers and installed a layered network security system to protect data transmission. The network used anomaly detection devices, perimeter and host protection measures, and authentication protocols to keep the network secure.

The exercise allowed players to test new technological capabilities. Soldiers working with MARS representatives linked 311th TSC operations officers with reservists participating in JT 05 in South Dakota. The Army's MARS exercise planning officer, John Scoggin Jr., says officers using VHF two-way radios connected to corresponding VHF land mobile radios reached out to South Dakota reservists through the tactical nonsecure Internet protocol router network (NIPRNET). The effort involved using network extension devices and IP-equipped X-band satellite communications to connect the TSC with a single channel ground and airborne radio (SINGCAR)-equipped vehicle parked a few miles from the JT 05 exercise command post. "It provided reliable, cellular phone quality," Scoggin says about the Maryland-to-South Dakota link.

MARS operators helped fuel realism by pushing 75 percent more scenario-based and real-world messages out to involved agencies and units than during last year's event, Scoggin notes. Scoggin serves as the emergency operations officer for Eastern Area U.S. Army MARS.

Used as a backup to primary communications systems, MARS becomes essential during a catastrophic event when systems may be targeted or otherwise damaged. During the exercise, MARS simulated multiple terrorist attacks on the power grid and on communication and other utility and transportation infrastructure support agencies. "We were assuming that the Internet would not be available and we'd have to move all network assets to high frequency radio," Scoggin says. "We depend on exercises like this to put stress on the system."

FEMA representatives also injected messages about actual world happenings. Mobile emergency response detachments in five states played out a scenario involving a Category 5 hurricane approaching Corpus Christi, Texas. FEMA players

Firebolt *cont'd from pg. 6*

not only fed messages into the exercise but also requested Defense Department support to handle its simulated hurricane evacuation operations, explains Ozzie Baldwin, FEMA Region 6 Mobile Emergency Response Support Team program manager. In one day, Army officials reported receiving more than 250 messages from FEMA, MARS and military outlets.

“We were receiving real-world traffic during the largest signal exercise in the states,” says Col. Loann Nannini, USAR, chief of staff, 311th TSC. This year, more units participated; more sites were incorporated; and more messages were transmitted, Col. Nannini adds. “We had more of everything.” At least 10 sites participated by sending or receiving voice, data and video messages.

The increased message traffic helped simulate the dynamics of operational communications traffic and unexpected happenings. “There was a tremendous amount of scenario play,” Scoggin says.

Specific sites provided a variety of mediums for connecting various remotely located players. The 311th TSC set up four separate standard tactical entry point, or STEP, sites that tied units into the Defense Information System Network. “We pulled services directly off the STEP sites,” Col. Smith says. Those services included NIPRNET, the secret Internet protocol router network (SIPRNET) and the tactical packet network (TPN). Videoconferencing also played an important role. Through the STEP, Army communicators connected to the Defense Satellite Communication System to send encrypted messages. The 311th TSC control center also maintained continuous, secure, dedicated tactical videoconferencing over SIPRNET to provide connection between the exercise command and remotely located units.

During the exercise, Army participants and their FEMA partners found common ground through the Defense Collaboration Tool Suite, a commercial off-the-shelf-based application providing interoperability to combatant commands, military services and federal agencies. FEMA uses the Defense Department-certified software to integrate with military units and to enable nonclassified and classified communications. “We tried to test interdependency of each element deployed and look at the common denominator of how to gain access to the SIPRNET,” Baldwin says.

Defense Collaboration Tool Suite capabilities include desktop voice and videoconferencing, document and application sharing, virtual space, instant messaging and whiteboard functionality. The exercise confirmed that FEMA and Army communicators “are not that far apart in capability,” Baldwin shares.



Atlantic Ocean (Oct. 14, 2005) - An F/A-18F Super Hornet, assigned to the “Salty Dogs” of Air Test and Evaluation Squadron Two Three (VX-23), performs a high-speed pass near the nuclear-powered aircraft carrier USS Enterprise (CVN 65) while underway in the Atlantic Ocean. Enterprise is currently underway conducting Sea Trials following an Extended Selected Restricted Availability (ESRA) in Northrop Grumman Newport News Shipyard. U.S. Navy photo by Photographer’s Mate 3rd Class Milosz Reterski

As units slated to participate in Grecian Firebolt 2005 dropped out to fulfill real-world missions, Army officials asked FEMA detachments if they could stand in and provide communications support to some participating Army units. “The Army had to constantly re-evaluate who was available to support whom” during the exercise’s planning, Baldwin says. FEMA was ready to step in, he adds.

Maj. Perry says the exercise fostered an innovative environment for solving issues that arise in the field. “It’s like backward engineering. You have to find out how things work and look for commonalities,” she says about integrating with different partners. “We didn’t care where you were from. We just took various capabilities and made it work.” Maj. Perry says the exercise encouraged brainstorming, trial and error experimentation, and ingenuity. “Sometimes we had to make the cable connections on site and do things on the fly,” she adds.

The teamwork apparently helped the 311th TSC fulfill its responsibility to provide tactical and strategic networks. Army officials reported a 90 to 95 percent reliability rate for system availability.

BT OVER

Test Your MARS skills – November 05

TRUE/FALSE - Indicate whether each statement is True or False.

1. ___ The Region Director has the authority to address NNN0ALL (State) (all Navy-Marine Corps MARS members in your State).
2. ___ The operating signal ZUI means that the originator of the message wants to know when the message was delivered.
3. ___ Individual members not holding staff positions have the authority to use collective call signs within their own State when they originate administrative messages.
4. ___ Your State training officer has the authority to address messages to NNN0ALL (State) (all Navy-Marine Corps MARS members in your State) as long as the message deals with ECOM planning issues.
5. ___ The operating signal ZEN is only used with third party messages.
6. ___ Your State Director has the authority to address messages to NNN0ALL REGION FIVE (all Navy-Marine Corps MARS members in Region Five).
7. ___ Only Chief, MARS, NNN0ASA, has the authority to address NNN0ALL (all Navy-Marine Corps MARS members).
8. ___ Service messages are never sent to third parties.
9. ___ Service messages always include your Area Director and the Area Director of the originating stations as addressees.
10. ___ A message addressed to NNN0ALC should be read on your State voice net even though the State Director is not present on the net, as there is something in the message you think everyone has a right to hear.

BT OVER



October MARS Skill Answer

Your State traffic net has just begun. The NECOS of the net is NNN0ZMT. He has asked for stations 'with traffic to indicate precedence and destinations of messages when checking aboard'. You hold one message for the Marine Corps Recruit Depot, San Diego, California. Your call sign is NNN0WBTT. Which is the correct transmission to make when checking into this net?

Answer

B. NNN0ZMT (un-key and listen) THIS IS NNN0WBTT. I LIST ONE ROUTINE SAN DIEGO CALIFORNIA.
OVER. - BT OVER -

Celebrate Freedom!



Vote Nov 8th



San Diego (Oct. 16, 2005) - The U.S. Marine Corps C-130 Hercules, "Fat Albert," assigned to the U.S. Navy "Blue Angels" flight demonstration team, uses Jet Assisted Take Off (JATO) bottles during the Marine Corps Air Station Miramar Air Show. Fat Albert kicks-off each show with an assisted takeoff, demonstrating the C-130's ability to get airborne in minimal time and distance, simulating conditions in hostile environments and on short, unprepared runways. U.S. Navy photo by Photographer's Mate 2nd Class Scott Taylor

5G1B Net Schedule

6:30PM 4007 kHz USB

Day	NECOS	Tfc Rep
Sun.	XYA	XEE
Mon.	XEE	XEE
Tue.	KZC	KZC
Wed.	BQH	BQH
Thu.	SXU	SXU
Fri.	ACY	OCF
Sat.	Rotating Duty (see below)	

Don't be bashful, if the net has not been called by the net control station within 2 minutes, jump in and start things rolling.

Saturday NECOS / TREP Schedule

	NECOS	TREP
Nov 5	XYA	XEE
Nov 12	XEE	XEE
Nov 19	KZC	KZC
Nov 26	BQH	BQH
Dec 3	SXU	SXU
Dec 10	ACY	OCF

“Old Technology”

Some thoughts on “Old Technology” from the ARES E-Letter October 19, 2005 We may be “old technology” but we get the job done and, as illustrated during the hurricane response, our folks saved the day when new technology proved to be fragile.

I heard the term “old technology” in reference to HF first at a Y2K conference, from a FEMA guy in 1999. The definition may be accurate but fails to denote that “old” technology’s reliability and capability serves well when coupled with the commitment and can-do ethic of the amateur operator. I am proud of all those who served in the unprecedented Katrina response and further commend all those in the ARRL who for years have served to train, represent and support this good work. Thanks for your good comments and your support of those who serve. - 73, Pat McPherson, WW9E, SATERN Net Manager. [The SATERN net was one of the preeminent on-the-air services for the Katrina effort. All of us are proud of your organization’s work, Pat. - K1CE]

Some feedback regarding your FINAL NOTE in the latest ARES newsletter: My response when I am addressed with this issue of Amateur Radio’s viability is, “IT’S SIMPLE AND IT WORKS.” When I was operating at the command center following Hurricane Charlie, a note on the white board at the command console had a quote (with date and time) from one of the Incident Commanders. It read: “Amateur Radio is the only reliable communications into the affected area.” The old KISS principle surely seems to apply here. — Fred Kleber, K9VV

- BT OVER



NNN0AMU Fred Sauer 11/10

Service Recognition

NNN0BQH	Bruce Meyer	19 yrs
NNN0JAY	Calvin Fuhrman	9 yrs
NNN0OCE	Joel Jensen	9 yrs

Don't forget your paperwork!

Test Your Analytical Skills Computer Back-up Power

You've finally decided to protect that computer of yours from power dropouts, the purchase of an uninterruptible power supply (UPS) is in your future. You know the following about your computer system:

- your computer draws 100 Watts
- your monitor draws 200 watts
- your printer draws just 25 W (that's right you're still using a dot matrix)

What is the minimum UPS rating in Volt-Amps (V-A) you can buy and still safely operate?

Hint: There is something in how a computer operates that you need to consider.

Answer in the next of the Minnesota MARSGRAM

The October Solution: A New Antenna

You've just purchased enough antenna wire to build a sloping 80 meter dipole. You want to string this 132 foot long antenna from the top of a 75 foot tree to a post in the fence at the edge of your yard. The posts in your fence are 6 feet high. How far away is the nearest post where you could attach your dipole?

Answer: Use the Pythagorean Theorem to find the location of your fence post. To determine the vertical side use 75 feet, height of the tree, minus 6 feet, height of the post. The hypotenuse of your triangle is the 132 foot antenna.

$$\sqrt{(132^2 - 69^2)}$$

The closest fence post that you can use must be at least 112.5 feet away from the tree.