



# MINNESOTA MARSGRAM



Information for Minnesota Navy-Marine Corps. MARS Members

Jan./Feb., 2008

Volume 12, Number 2

## NNN0ALL Minnesota

by NNN0GAZ Tim

Greetings, 2008 is off to a fine start – just seems like the month of January got away from all of us. If you were looking for a January MARSGRAM, I apologize.

As many of you are aware, over the past few months we've dealt with the use of email in the Navy Marine Corps MARS program. Email presents us with an easy, convenient way of moving our traffic – and serves as a handy tool when propagation is less than optimal. So, before email arrived how did traffic move when propagation was tough – its time to think about that. Because as robust as the Internet appears it is in fact one very fragile piece of infrastructure. Furthermore, NTP8 (D) Draft makes it clear that RF is to be the primary means for moving record traffic and email is the means of last resort – i.e. when it absolutely is so bad that there is no other way to move record traffic. This was reiterated in a recent Region Five broadcast and was the focus of a recent exchange between myself, Bo Lindfors, Chief NAVMARCORPMARS, Chief Anderson, Director Central Area and Dave Ouellette, Deputy Director Central Area.

First, propagation is bad for all of us, not just MARS members, not just us in Minnesota, the entire amateur radio community. Does that mean that we resort to email – no, other states are using variety of means to move traffic – ALE, soundcard modes (pick one PSK, MT63, Olivia, EasyPal, etc.), relays – sometimes even involving stations outside their state, region and area. Okay, so there is a way – albeit requires a little more work, maybe a few more pieces of equipment, but there is a way to move traffic without relying on the Internet. The extra equipment – most of us already have soundcards in our computers and with a few components a soundcard interface can be made. If putting together a few components isn't your cup of tea – there are commercial units available to enable you to use the soundcard modes.

Second, this isn't, and I will quote Chief Lindfors, "The Navy-Marine Corps email service." Pretty clear from what I read – email is not the primary means of moving traffic.

Third, and I'll

quote Chief Anderson, "...aren't challenging propagation problems something most hams live for? I find it surprising that we have folks out there that give up so easily. It seems to me the propagation issues we're having right now are a fantastic opportunity to try alternate methods of HF comms and not abandon HF for an easy fix like email....". Again, clear enough for me to understand. Chief Anderson went on to add the following, "What we currently do on a day to day basis is primarily train. Like the saying goes, we need to train like we fight and fight like we train. So in a nutshell, I say that message traffic is NOT to be sent via email and operators need to figure out a way around the propagation issues."

From my perspective the chain-of-command above me has made their position clear – email is a means of last resort. So now we read traffic on the net – that means we use our skills as communicators and our training as MARS operators. Need a fill on that

**GAZ** cont'd pg. 2

The MINNESOTA MARSGRAM is published for the benefit of Amateur Radio Operators in Minnesota and other interested individuals. The contents DO NOT reflect official Navy positions.

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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

NN0DVD	Freq. NCO AFSK/USB
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Website <http://www.mnmars.org>

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

**GAZ** *cont'd from pg. 1*

message that was read – use the correct practice and ask for it. Our practice, and I'm guilty as well, of downloading traffic from the switch, distributing it by email and simply saying "Roger" on the net was not ever good practice and is clearly not acceptable. Some may argue that this is going to cost us members – well my first response is – what did you join the program for – to provide a service using your training and skills or move text via email? If the later, then yes, a person may be here for the wrong reason.

Clearly there are messages that all members should have. This is where the traffic-handling matrix, printed in the last newsletter and further refined in this issue, comes in. I'm not opposed to traffic being sent out via email *after* it has been read and rogered *on the net*. What can no longer take place is

**Who's Station is This?****MN Navy-Marine Corps MARS Staff**

Minnesota State Director

NNNOGAZ - Tim Isom - NNN0XEE

Assistant to the State Director

NNNOGAZ ONE

Al Doree - NNN0KZC

Assistant to the State Director: Em. Comm.

NNNOGAZ TWO

Al Doree - NNN0KZC

Assistant to the State Director: Net Ops/Rpts

NNNOGAZ THREE

Bob Reid - NNN0XYA

Assistant to the State Director: Training

NNNOGAZ FOUR

Robert King - NNN0SXU

downloading traffic, sending it via email, and the only task the member checking in has to do is say "Roger."

So how do we go about getting traffic out during a net – especially under such poor conditions?

- First, those that are PACTOR capable are welcome to log into the switch and download the traffic. These members can also just say "Roger" when the traffic rep lists the traffic because they have hard copy.
- Second, for those that are soundcard capable, we can have a listing of traffic via soundcard mode at the beginning or end of a voice net – or at some predetermined time within our traffic net. We just simply have to set up the process and procedure.
- Third, for those that are not soundcard capable at this time – what do you need? Do you need a basic computer with a soundcard – some of us may have a spare machine or know how to obtain one for little or no cost. Do you need an interface? We have members that have already built interfaces that I am sure would be willing to lend a helping hand or advice on how to build your own. In fact, I'm pretty sure some may even cut you a deal and build one for you.
- Finally, for those messages that are absolutely must haves – we can print those in the newsletter or post them at the community zero site on a regular basis.

Some of you by now are probably shaking your heads and wondering why is he being so stubborn about this – what's the big deal if I get MARS traffic by email? The big deal is that it is entirely possible in another 9/11 situation, or worse yet a pandemic that the Internet will slow to a crawl due to a catastrophe or worse yet a shortage of technical personnel to keep it running. Our services of long haul message handling may become vitally important and trying to train someone on the fly or refresh their training is most unpleasant and in most cases unsuccessful. We're amateur radio operators – we're supposed to be the guys who do something with nothing and make it work. We're also not living up to the current theme in amateur radio emergency communications... "*When all else fails...*"

- BT OVER -

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*"The more a person talks about what they are going to do, the less they talk about what they have done."*

A. Nony Mose

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## Traffic Info Matrix

	Read on Net	Digital Net	Email*
Broadcasts – CHNAVMARCORMARS/National staff, ASG/Area staff, REGION FIVE/Region Staff, GAZ/State staff	X <sup>1,2</sup>	X	X
Broadcasts – CHNAVMARCORMARS INFO	X <sup>1</sup>	X	
Admin Msg	X <sup>1</sup>	X	X
EEl	X <sup>4</sup>	X	X
SITREP	X <sup>4</sup>	X	X
CASREP	X <sup>4</sup>	X	X
IMP/Term msg	X	X	X
Ind Participation Rpt	X	X	X
NECOS Rpt	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>
Switch Rpt	X	X	X
3rd Party	X	X	X

### Notes

- 1 - Admin messages, Broadcasts, Info Broadcasts (Chief NMC MARS, Central Area (ASG), Region Five, MN) which are 30 lines or less in length, not including header
- 2 - Armed Forces Day - exception - email only
- 3 - NECOS report is a full report, not just the DTG
- 4 - MN - originating from MN stations only

\* Email is not considered a primary mode for the transmission of record traffic in MARS. Every attempt should be made to pass traffic by RF (voice, digital, etc.) before email is used as the initial mode of transmission for a message. (NTP8DDRAFTM200).

For traffic, use the most expedient mode possible considering email to be the mode of last resort. For example on an EEI message, if the TREP and ADDEE both have digital capabilities, send the message by the the digital mode (PSK31, MT63, etc.) both stations agree to. NECOS station can make necessary arrangements during the net for traffic to be passed.

Admin messages include, but are not limited to Secretary of Defense; SecNav; etc. and are usually greeting or congratulatory messages. Typically long and addressed to active duty or reserve personnel, not necessarily MARS related. - typically these messages are addressed to ALL, therefore the TREP can roger these message(s) and delete from the switch.

If a message is marked for email and reading, read on-the-air at reading speed.  
If a message is marked for read only, read on-the-air at writing speed.

All traffic should be listed on the air, those messages designated as email only, a station can simply "Roger", traffic listed for reading on the net - stations can roger after the message has been read, unless the station has downloaded the traffic - see next item.

If a station has downloaded the traffic from the switch and has hard copy, that station can roger the traffic he/she has downloaded from the switch - eliminating the necessity for the TREP to read the message(s) for that station.

*BTOVER*

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*"You miss 100 percent of the shots  
you don't take."*

Wayne Gretzky

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## Greetings from KSTP TV

Just thought you might like to alert your members that on Sunday night February 10 KSTP Channel Five will be broadcasting a very special half hour program .

The "On the Road" team led by Jason Davis spent a couple of days at sea aboard the aircraft carrier USS Abraham Lincoln visiting and profiling members of the crew who hail from Minnesota.

You can see the program Sunday night at 10.35 pm.

Hope you all enjoy it.

Regards.....Jason Davis

## Training Corner

### Highlights of New Voice Net Procedures

by: Bob, NNN0GAZ FOUR

The Standard Operating Procedure for Calling and Operating a Voice Net supersedes the procedures of all three services. As for Navy-Marine Corp Mars it supersedes NTP (D), Chapter 7. **Opening a Net** In the comments that follow note that the net control station is referred to as NCS, and the net designator has taken on an additional meaning. Our present procedure on calling the net is to include in the net call *ALL STATIONS...NCS IDCENTGIFICATION...NET DESIGNATOR...FIFTH REGION...MINNESOTA...NAVY-MARINE CORP MARS...TRAFFIC NET...* Thus it identifies the region, state, the number of the net of the type, and the type of net.

As of January 1, 2008, the net designator becomes a collective call sign. It identifies the stations included in the call, the region, state, and type of net. NCS starts the net with a call up by transmitting: A1B2 A1B2 THIS IS NCS OVER.

We would transmit for our traffic net: 5G1B, 5G1B THIS IS NNN0XXX, OVER. The net designator is stated twice only in the first call up. This call up serves multiple functions. It announces the net, identifies the net, puts the net in directed net mode, and authorizes stations to transmit for such purposes as checking in and listing traffic.

When conditions are poor NCS will transmit the call up using words twice, e.g. A1B2, A1B2 THIS IS NCS, NCS OVER. Although the call up uses words twice stations checking in follow normal procedure and respond: NCS THIS IS AAA, NO TRAFFIC OVER.

A station checking in will not normally use WORDS TWICE unless the station believes WORDS TWICE is necessary to help assure NCS receives his/her check in, or the station is directed by NCS to do so. For example, NCS has a hard time hearing a station call sign and transmits: UNKNOWN STATION, UNKNOWN STATION THIS IS NCS, NCS WORDS TWICE, WORDS TWICE, OVER

**Check in Limiters** NCS may limit the scope of the net call. This is done by using check in limiters. Check in limiters are not be used except where a large number of check ins are anticipated, and their use serves to help reduce doubling, save air time, and minimize confusion. Their use, when authorized, is not mandatory, unless so prescribed by

competent authority. They exist as a tool to aid NCS in maintaining net control and discipline. Only authorized phrases shall be used to modify the call up.

The JOINT SOP gives the following types of examples: 1. ALL MINNESOTA STATIONS , 2. STATIONS WITH PRIORITY TRAFFIC ONLY, 3. ALL STAFF REGION FIVE The check in limiter we have been using should meet requirements, i.e. ALL MINNESOTA AND DAKOTA STATIONS ONLY.

**The Traffic Rep** There is no reference to a traffic rep in the Joint SOP. This omission may be under review. One suggestion for listing switch traffic when NCS is also performing the duties of a traffic rep would include switch traffic in the call. The call might be: 5G1B 5G1B THIS IS NCS WITH ONE PRIORITY FOR NNN0XXX, ONE ROUTINE FOR ALL STATIONS, MINNESOTA AND THE DAKOTAS STATIONS ONLY, OVER . This form of net call has yet to receive official approval.

When there is a traffic rep other than the NCS, the rep will presumably check in to the net and list the traffic he holds, and the NCS will distribute it as he does other traffic. How to make this approach work smoothly will be worked out.

**Mars Business** The Joint SOP does not illustrate a call for mars business but makes several references to the subject, Perhaps the call could be: 5G1B THIS IS NCS STATIONS WITH MARS RELATED BUSINESS, OVER. Alternatively, on check in could a station indicate that he had such business?

**Call for Comments** The SOP does not authorize calling upon stations for comments. Presumably a Free Net could make up for this omission.

**Closing Down** At the appointed time for a net to end, and NCS is satisfied that all traffic has been handled, NCS will close the net as follows: A1B2 THIS IS NCS, CLOSE DOWN, OUT

BT OVER

## Actual EEI Message Submittal

by: AINNN0GAZ TWO

Let me start off with ANY MARS Member may submit an ACTUAL EEI message NTP8(D) Para. D900 states in part "The MARS member should report any event he or she believes maybe of interest at the National level. It is always better to report on too many events rather than miss one.

Use your own judgement or call any MNMARS officer if you think you should submit an ACTUAL EEI.

Once you have decided to submit an ACTUAL EEI, you will need to select an EEI Event identifier REF; MNMARS Emergency Communications Plan Annex F.

NAVYMARS suggests you do two things:

Submit the ACTUAL EEI via email using the EEI Generator found at [www.navymars.org](http://www.navymars.org), fill in all the information blanks and submit.

Submit the ACTUAL EEI message via the MDS system.

If you don't have access to the MN switch, then you can pass the message on the evening traffic net to someone that has access and can enter it on the MDS system.

ECOM TRAINING TIPS NR 14, EEI MESSAGES R242130Z Jan. 2008 FM NNN0ASZ GA just received offers more information and references to help submit an ACTUAL EEI message.

The message format and addressee to use for Minnesota is listed in MNMARS ECOM PLAN Annex E as follows:

OOONOASANOASG  
DENNN0xxxNR  
O(DTG)  
FMNNN0xxxMN(Yourcall)  
TOAAN3EEI VA  
INFONNN0ASA VA  
NNN0ASZGA  
NNN0ASGIL  
NNN0ASGONEMI  
NNN0ASGTWOAL  
NNN0AS5MN  
NNN0AS5TWO MN  
NNN0GAZMN  
NNN0GAZTWO MN  
BT

UNCLASACTUALINCIDENT  
SUBJ:EEIREPORT

(For updates, change line to read: SUBJ: EEIRERORT UPDATE NR 1 and increase the number as appropriate.)

1. REF (use appropriate event identifier from list)/MN
- A. (Incident and location) (What, Where and When: specific location of incident and time of occurrence)
- B. (Status of emergency medical facilities)(Hospitals/clinics operational, destroyed, partially destroyed-what is available in the area, etc)
- C. (local transportation status)(Accessibility of incident area: roads, bridges, airport, railroads, etc)
- D. (What was damaged)(Buildings, cars, facilities; number of known injured, etc)
- E. ((Area utility status)(Areas without water, electricity, etc)
- F. (Local communications status)(Status of local telephone; radio; television; etc. and if unaffected, limited, or unavailable.)

- G. (Source of information and when received – a date-time-group)  
Notes when providing observation information – if the observation is:

- Personal observation – include MARS call sign;
- From a TV or Radio Station – give station call sign and location – including city and state;
- From a scanner – provide frequency (if possible);
- From a government/emergency official – include name, agency and complete telephone number

- H. (Remarks/pertinent information)(if none, state NONE)

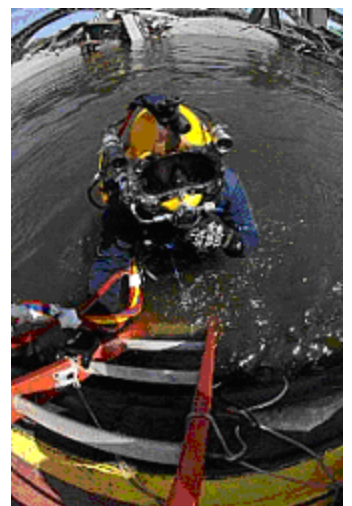
ACTAULINCIDENT

BT

*BTOVER*

NNNN

MINNEAPOLIS, Minn.  
(Aug. 11, 2007) - Navy Diver 1st Class Joshua Harsh attached to Mobile Diving and Salvage Unit (MDSU) 2 from Naval Amphibious Base Little Creek, Va., prepares to leave the surface on a salvage dive in the Mississippi River. MDSU-2 is assisting other federal, state, and local authorities managing disaster and recovery efforts at the site of the I-35 bridge collapse. U.S. Navy photo by Senior Chief Mass Communication Specialist Andrew McKaskle



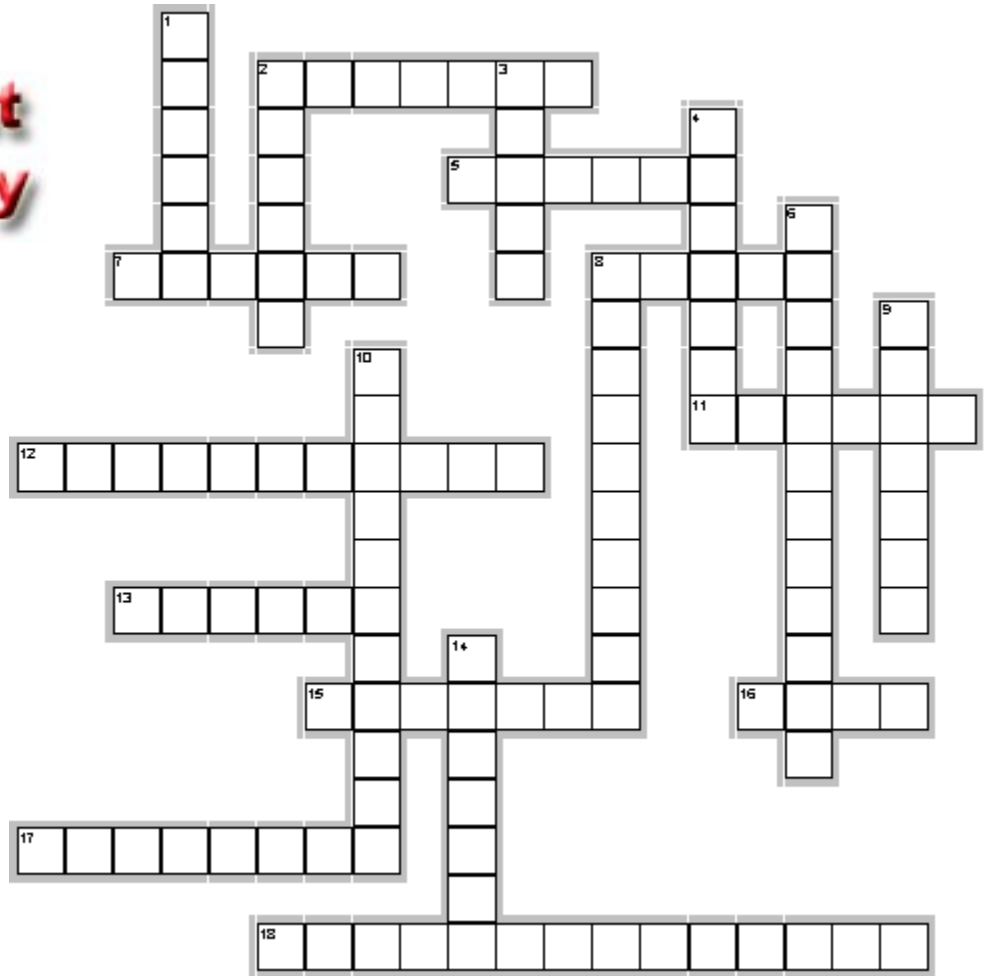
# Name That DX Country

**Across**

- 2. CP
- 5. HP
- 7. XE
- 8. EA
- 11. SA
- 12. DU
- 13. SA
- 15. 7X
- 16. OA
- 17. GM
- 18. H4

**Down**

- 1. F
- 2. PY
- 3. I
- 4. C6
- 6. KA
- 8. HL
- 9. EI
- 10. HB
- 14. ON



## December Crossword - Waves and Antennas Solution

**Across**

- 3. ROOTMEANSQUARE—The terms used in reference to a dc voltage that would cause the same heating in a resistor as a certain value of ac voltage.
- 4. SAWTOOTH—A wave with a straight line rise time faster than the fall time (or vice versa)
- 6. SINWAVE—A wave whose amplitude at any given instant can be represented by a point on a wheel rotating at a uniform speed.
- 10. PERIOD—The time required to complete one cycle
- 11. DRIVENELEMENT—Term for an antenna element which is supplied power from a transmitter through a transmission line.
- 12. RADIATIONRESISTANCE—Term used for an equivalent resistance which would dissipate the same amount of energy as that radiated by the antenna.

**Down**

- 1. FOLDEDDIPOLE—A dipole whose ends are connected by another one-half wavelength piece of wire.
- 2. VELOCITYFACTOR—The term for the ratio of actual velocity at which a signal travels through a line to the speed of light in a vacuum.
- 5. TRAPANTENNA—Antenna capable of being used on more than one band because of the presence of parallel LC networks.
- 7. ENDS—Location of the current node in a half-wave antenna.
- 8. SQUAREWAVE—A wave which abruptly changes back and forth between two voltage levels and which remains an equal time at each level.
- 9. CENTER—Location of the voltage nodes in a half-wave antenna

## Test Your Analytical Skills

### ABCs of PC board layout

Courtesy of *The Electron*, Cleveland Institute of Electronics

This analytical problem belongs mathematically to graph theory. Graph theory as used here is a branch of topology that deals with geometric figures made up of points connected together by lines. It should not be confused with the graphs drawn on cross-ruled paper by high school math students and by those studying analytic geometry. Unfortunately, the two different graph theories are called by the same name, even though they are not related.

Graph theory originally had few practical applications, but it has many uses today. Electrical network theory is often taught in terms of graph theory, particularly in advanced courses. This problem relates to the layout of printed circuit boards, an application of graph theory. The essential requirement in printed circuit boards is that the foil lines cannot cross, and graphs meeting this requirement are called *planar* graphs.

You need know nothing about graph theory (or any other math) in order to have fun with this problem, but you will learn a little graph theory as we go along.

Six components, each with three connection pins, are to be mounted on a printed circuit board. They are identified as A, B, C, X, Y and Z. We show them mounted in a line in Figure 1, but you are free to mount them anywhere you like with respect to each other. Circuit board designers seldom have so much leeway, but we want to make this problem as easy for you as we can. One of the three pins of A must connect to a pin of X, one to a pin of Y, and one to a pin of Z. The pins of B and C must connect in the same manner to the pins of X, Y and Z. Figure 2 shows all the pins connected as specified. However, the conductor from A to Z cross the conductor from C to Y, and you can't have that on a PC board. In redrawing Figure 2 to get rid of the crossed wires, don't forget that the positions of components can be interchanged if that would be helpful. Or you can draw an entirely different configuration. Someone may tell you this problem cannot be done without crossing any conductors. That has been said about just about every invention in history; it has been wrong so often that it is not an acceptable answer unless you can grave it. Hence, the challenge for this problem is: Do it, or prove that it cannot be done.

*Answer in the next issue of the Minnesota MARSGRAM*

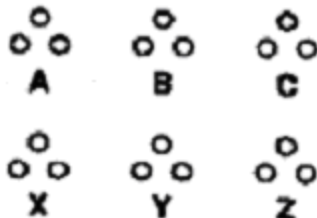


Figure 1

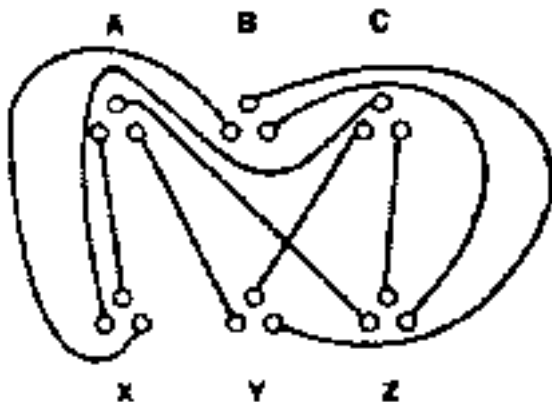


Figure 2

## Test Your Analytical Skills December Solution

### Gas in The Tank?

Submitted by Bruce NNN0BQH

An underground cylindrical tank has an internal diameter of four feet and length of eight feet. It is lying on its side and has an inspection pipe from its top to the surface of the earth. A dipstick shows that the liquid depth is 14 inches. How many gallons of liquid are in the tank?

**182.4 gallons (with a total tank capacity of 752 gallons)**

## 5G1B Net Schedule

6:30PM 4007 kHz USB

Day	NECOS	Tfc Rep
Sun.	XYA	XEE
Mon.	XEE	XEE
Tue.	BQH	BQH
Wed.	KZC	KZC
Thu.	SXU	SXU
Fri.	AVS	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.

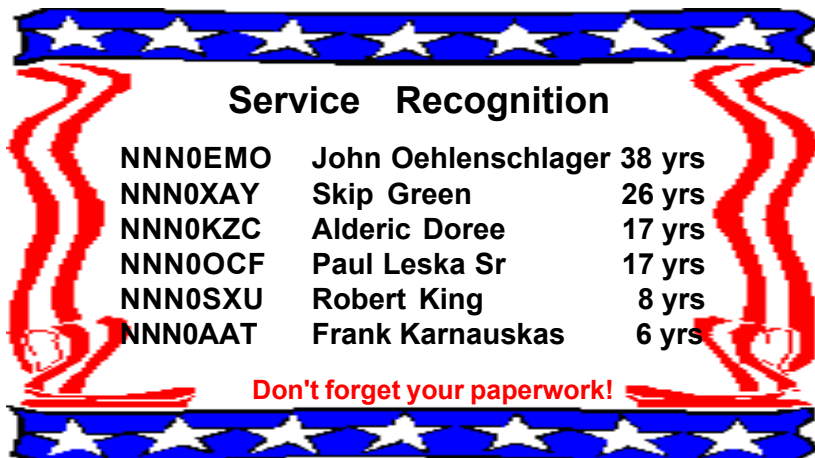
### Saturday NECOS / TREP Schedule

	NECOS	TREP
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Feb 9	SXU	SXU
Feb 16	AVS	OCF
Feb 23	XYA	XEE
Mar 1	XEE	XEE
Mar 8	BQH	BQH



NNN0XEE	Tim Isom	2/18
NNN0APD	Bob Ross	2/28



### Service Recognition

NNN0EMO	John Oehlenschlager	38 yrs
NNN0XAY	Skip Green	26 yrs
NNN0KZC	Alderic Doree	17 yrs
NNN0OCF	Paul Leska Sr	17 yrs
NNN0SXU	Robert King	8 yrs
NNN0AAT	Frank Karnauskas	6 yrs

Don't forget your paperwork!

## Test Your NIMS Knowledge

Depending on the size and type of incident or event, it may be necessary for the Incident Commander to designate personnel to provide public information, safety, and liaison services for the entire organization. In ICS, these personnel make up the:

- A. Deputy Staff
- B. Director Staff
- C. Command Staff
- D. General Staff

## December NIMS Quiz Solution

Which General Staff position conducts tactical operations, develops the tactical objectives and organization, and directs all tactical resources?

- C. Operations Section Chief

-BT OVER

## Web Hits

### APRS Information

Most of us have visited the APRS tracking site, Findu <<http://findu.com>>, and here's a new site based on Google Maps <<http://aprs.he.fi>> When you log in to this site by call sign, it looks up your coordinates and starts off with you in the center of the action. You might find yourself surrounded by quite a lot of APRS information!

### Wireless Headset

Check out Randy K7AGE's stable of how-to ham radio videos on YouTube! <<http://ca.youtube.com/profile?user=K7AGE>> The latest is a nifty wireless headset adapter that uses inexpensive Bluetooth adapters. (from QRZ.com)

## 2008 FAR Scholarship Announcement

The Foundation For Amateur Radio, Inc., a non-profit organization with headquarters in Washington, D.C., plans to administer fifty-five (55) scholarships for the academic year 2008-2009 to assist licensed Radio Amateurs. The Foundation, composed of over seventy-five local area Amateur Radio Clubs, fully funds three of these scholarships. Eleven are funded with the income from grants. The remaining forty-two (42) are administered by the Foundation without cost to the various donors.

Licensed Radio Amateurs may compete for these awards if they plan to pursue a full-time course of studies beyond high school and are enrolled in or have been accepted for enrollment at an accredited university, college or technical school. The awards range from \$500 to \$3,000 with preference given in some cases to residents of specified geographical areas or the pursuit of certain study programs. Amateur Radio Clubs, especially those in Delaware, Maryland, Ohio, Pennsylvania, Texas, Virginia and Wisconsin, are encouraged to announce these opportunities at their meetings, in their club newsletters, during training classes, on their nets and on their world wide web home pages.

Additional information and an application form may be requested by letter or QSL card postmarked prior to 30 March 2007. Please send name, call and address to: FAR Scholarships, P.O. Box 831, Riverdale, MD 20738

Applications are also available electronically for download from the FAR website <http://www.amateurradiofar.org>. The Foundation encourages all qualified amateurs to apply for these awards.

BTOVER