



MINNESOTA MARSGRAM



Information for Minnesota Navy-Marine Corps. MARS Members

June, 2011

Volume 16, Number 6

NNN0ALL Minnesota

by NNN0GAZ Tim

Greetings. Looks like spring has finally arrived in Minnesota – albeit a bit late. I understand in some areas one can still find a snow pile or two lurking under what appears to be a pile of dirt. I'm not sure if it is still snowing in the Boundary Waters.

Speaking of weather – we have seen the destructive forces of Mother Nature, particularly in the south. This year will no doubt be a record breaking year not only in terms of the number of tornadoes but in the lives lost to the storm. I encourage all of our members and their families – if you don't already have a plan for what you would do in a disaster, take the time to make one. There are a number of excellent resources available for developing your own disaster plan. Start by visiting ready.gov – where you will learn how to “Prepare, plan, stay informed.”

June will be the last month of the second quarter – how are you doing in terms of participation? Have you participated in an emergency communications drill yet this year? If not, check into the evening nets and spend a little time with other MARS members.

The Armed Forces Day celebration was difficult, as usual. Central Area

members, under the call sign NNN0NAJ, made just shy of 500 contacts. Congrats and thanks to all who participated.

Don't forget, we're always interested in contributions from members to the newsletter. Got a brainteaser, a training article, a picture, feel free to send your contribution to the editor.

With Memorial Day and the unofficial start to summer past, please don't forget our evening nets. If you can't make the 5G1B, feel free to check into the Region Five net – 5X1B on NBJ or alternate frequency NEB. We look forward to hearing you on the air. Don't be a placeholder on the roster. We're not asking for you to be on the net each and every night – make one net a week – your participation will be appreciated. There is always the need for substitute NECOS and TREP stations – if you haven't tried this, step in when another member needs relief, you will feel a real sense of accomplishment.

Enjoy this issue of the Minnesota MARSGRAM.

BTOVER



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	18:30 Daily
	Sec. NBG	
	Ter. NAR	

MINNESOTA ADMIN. NET

5G4A	Pri. NCE	19:00
		2nd Sunday

Website <http://www.mnmars.org>

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

Test Your NIMS Knowledge

Each month we take a look at a topic covered in the FEMA on-line courses required of all emergency communications volunteers. See how much you recall from the course.

The Incident Command System (ICS) is a proven incident management system that is based on organizational:

- A. Best practices.
- B. Strengths.
- C. Structures.

Check in next month's MARSGRAM for the answer.

BTOVER



Joplin Storm Damage

Marines of Recruiting Station Kansas City patch up a fellow Marine's roof May 23 after a tornado ripped through Joplin, Mo. the night before. Photo by Cpl. David Rogers, Recruiting Station Kansas City.

May NIMS Solution

One of the chief benefits of NIMS is that it is:

- B. Applicable across jurisdictions and functions;

BTOVER

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Flag Day History

Though the origin of Flag Day dates back to the late 19th century, its inspiration takes us further back to 1777. On June 14th of that year, in Philadelphia, the Continental Congress passed a resolution specifying that the flag carry 13 stripes and 13 stars. The colors would represent hardiness and valor (red), purity and innocence (white), and vigilance, perseverance and justice (blue).



The concept of a specific day to annually recognize the American Flag came 108 years later. In

1885, a Fredonia, Wisconsin schoolteacher, B.J. Cigrand, arranged for the students in his school district to observe the resolution on June 14th as 'Flag Birthday'. In 1889, George Balch, a kindergarten teacher in New York City, planned similar festivities for his school's students.

In 1893, Philadelphia became the first city to celebrate Flag Day, and in the following year, New York was the first state to observe June 14th. After decades of expanding community observances, President Woodrow Wilson established Flag Day on May 30, 1916.

Still many communities did not celebrate Flag Day. It wasn't until 1949, when President Harry Truman signed into an Act of Congress that National Flag Day be observed every June 14th. The United States Flag Code, as adopted by Congress, states "The flag represents a living country and is itself considered a living thing." This is why we should give the flag our full respect.

BTOVER



Training Corner

Digital Transmissions and Prosigns

by: Bob, NNN0GAZ FOUR

There are many prosigns applicable to digital transmissions. Listed are a few of the illustrations of the use of these prosigns which are contained in NTP 8(D) ANNEX C. C204 DESCRIPTION AND USE OF PROSIGNS.

a. **AA - UNKNOWN STATION.** The prosign AA is used in lieu of a call sign in establishing communication with a station whose call sign is not known or is not recognized. Example: NAV hears its own call sign but misses the call sign of the calling station. NAV transmits:

AA DE NAV K

b. **AA - ALL AFTER: AB - ALL BEFORE.** The prosigns AA and AB are used after the prosigns IMI, INT, C, J, and certain operating signals to identify a portion of a message.

c. **AR - OUT.** The prosign AR means, THIS IS THE END OF MY TRANSMISSION TO YOU AND NO RESPONSE IS REQUIRED OR EXPECTED. When AR is used, it does not preclude requests if necessary for repetitions or verifications.

Example 1:

NAV DE NNNØRAL R AR

Example 2:

R 142155Z MAR 2004

BT

HELLO JERRY

BT

AR

d. **AS - WAIT.** When the called station is not prepared to accept traffic, the prosign AS may be employed.

(1) AS sent during a transmission and without an ending sign indicates a short pause:

NNNØRRZ DE NAV

R 182100Z MAR 2004

GR8

BT

UNCLAS

PASS TO GEO - AS

When the calling station is ready to resume, it commences with a repetition of the last group already sent. GEO K MURKY etc.

(2) AS followed by the prosign AR means YOU ARE TO WAIT, or I AM OBLIGED TO WAIT as applicable.

(3) AS followed by a numeral and AR means the expected delay in minutes is represented by the numeral following AS.

(4) A station having received AS shall wait for the prosign K before transmitting, unless in the meantime it has been given

a message of high precedence to transmit, or it appears the station has been overlooked.

e. **B - MORE TO FOLLOW.** In the final instructions, the prosign B means MORE TO FOLLOW.

Example 1: NAV indicates that it has more to send to NNNØTUG by transmitting:

NNNØTUG DE NAV

R 211340Z MAR 2004

GR 29

BT

TEXT

BT

B

K

Example 2: NNNØSJK has just received a message from NAV. When receipting, NNNØSJK indicates that he has traffic to send to NAV as follows:

NAV DE NNNØSJK R B K

Example 3: A precedence prosign, except R, may follow B to indicate the precedence of the message on hand:

NAV DE NNNØSJK R B P K

B followed by a call sign in the final instructions means MORE TO FOLLOW TO STATION INDICATED.

Example: NNNØRAG, NNNØRBP, NNNØRDY, and NNNØRFZ are in the same net. NNNØRAG transmits a message to NNNØRBP and NNNØRDY for which he requires a receipt and at the same time indicates to NNNØRDY that more is to follow for him:

NNNØRDP NNNØRDY DE NNNØRAG

R 140315Z MAR 2004

GR 34

BT

TEXT

BT

B NNNØRDY

K

f. **BT - BREAK.** The prosign BT is used to indicate the separation between the text and other parts of a message. It immediately precedes and follows the text. Example: NAV is transmitting a message to NNNØSTT (for which receipt is not necessary or desired).

NNNØSTT DE NAV

P 221311Z MAR 2004

BT

TEXT

BT

AR

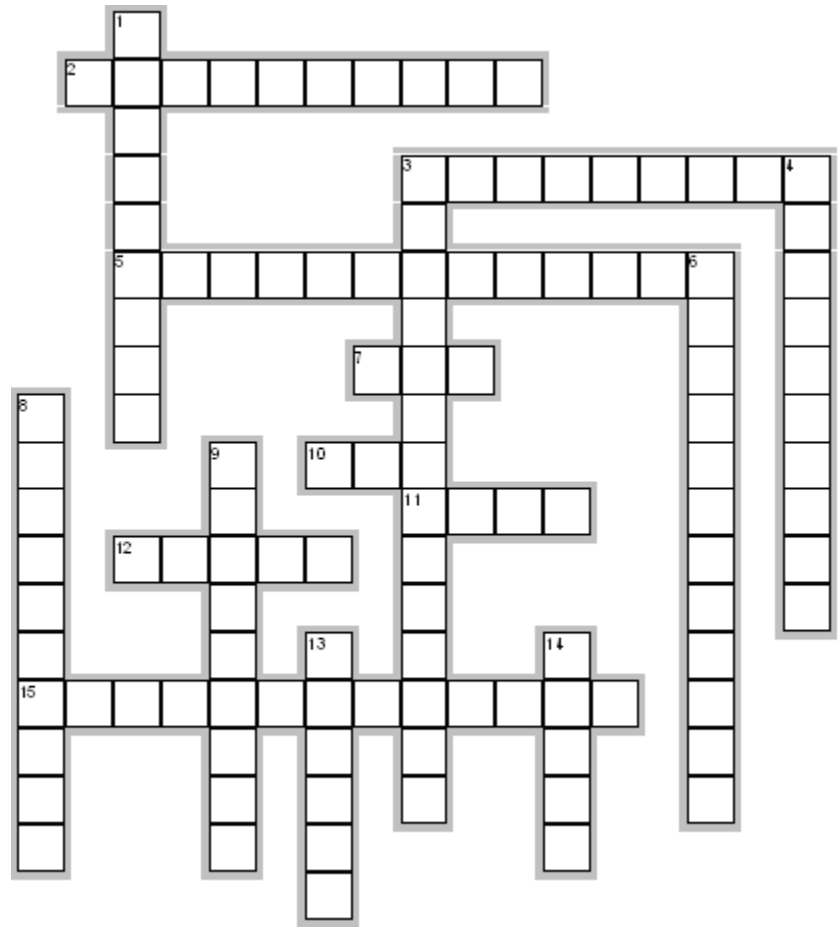


Across

- 2. When the crowd boos.
- 3. Defensive player positioned between second and third bases.
- 5. A bunt designed to advance a runner although the batter will be thrown out.
- 7. A play in which the batter safely reaches a base after hitting the ball, without aid from a fielding error or fielder's choice.
- 10. A team's best starting pitcher.
- 11. Declaration by the umpire that a runner is entitled to the bases for which he was trying.
- 12. The section of the outfield between the outfielders. Also called gap.
- 15. A ground ball that hits in front of home plate (or off of it) and takes a large hop over the infielder's head.

Down

- 1. A home run that is hit with a runner on every base. This hit scores 4 runs.
- 3. A play in which a runner on third breaks toward home on the pitch and the batter's responsibility is to bunt the ball allowing the runner to score.
- 4. A batter that generally hits to the same side of the field that he bats.
- 6. A bloop hit that drops between the infielder and out-



fielder.

- 8. A pitched ball missed by the catcher, allowing a runner to advance.
- 9. A pitch so far from the strike zone that the catcher cannot catch or block it, permitting any base runner to advance a base.
- 13. A ball hit for a homerun.
- 14. Hill the pitcher stands on while pitching.

May Crossword Solution

Across

- 1. UPDRAFT—A small-scale current of rising air. If the air is sufficiently moist, then the moisture condenses to become a cumulus cloud or an individual tower of a towering cumulus.
- 3. MICROBURST—A small, concentrated downburst affecting an area less than about 2.5 miles across. Most are rather short-lived.
- 5. VIRGA—Streaks or wisps of precipitation falling from a cloud but evaporating before reaching the ground.
- 8. TROPOSPHERE—The layer of the atmosphere from the earth's surface up to the tropopause, characterized by decreasing temperature with height, vertical wind motion, appreciable water vapor content, and sensible weather.
- 9. FRONT—A boundary or transition zone between two air masses of different density, and thus (usually) of different temperature.
- 10. WATERSPOUT—A tornado occurring over water.

11. MESOCYCLONE—A storm-scale region of rotation, typically around 2-6 miles in diameter and often found in the right rear flank of a supercell.

12. ACCESSORYCLOUD—A cloud which is dependent on a larger cloud system for development and continuance i.e. Roll clouds, shelf clouds, and wall clouds.

Down

- 2. DUST DEVIL—A small atmospheric vortex not associated with a thunderstorm, which is made visible by a rotating cloud of dust or debris. Form in response to surface heating during fair, hot weather.
- 4. SQUALL LINE—A solid or nearly solid line or band of active thunderstorms.
- 6. GUSTNADO—A small tornado, usually weak and short-lived, that occurs along the gust front of a thunderstorm. Often it is visible only as a debris cloud or dust whirl near the ground.
- 7. DEBRIS CLOUD—A rotating "cloud" of dust or debris, near or on the ground, often appearing beneath a condensation funnel and surrounding the base of a tornado.

2011 Museum Ships Weekend

June 4 through June 5

Over seventy museum ships will operate from their respective museum ship or within sight of their museum ship if not able to get onboard during the Museum Ship Weekend event. An established physical Memorial to a ship is considered the same as operating from the ship as long as the group is operating from the Memorial or within sight of the Memorial.

You can find a current list of participating ship museums at <http://www.nj2bb.org/museum/index.html>

Each ship's group will send a certificate or QSL card upon receipt of your signal report and SASE. You can find QSL information links on the list of participating ships. If you want to participate in the contest, submit your logs by July 30, 2011.



Here is a selection of some of the US Naval vessel museum sites participating in the event.

NAME	TYPE OF SHIP	LOCATION	CALLSIGN
USS Hornet	Aircraft Carrier	Alameda Point, CA	NB6GC
USS Midway	Aircraft Carrier	San Diego, CA	NI6IW
USS Lexington	Aircraft Carrier	Corpus Christi, TX	W5LEX
USS Yorktown	Aircraft Carrier	Charleston, SC	WA4USN
USS New Jersey	Battleship	Camden, New Jersey	NJ2BB
USS Wisconsin	Battleship	Norfolk, Virginia	N4WIS
USS North Carolina	Battleship	Wilmington, NC	NI4BK
USS Missouri	Battleship	Pearl Harbor, HI	KH6BB
USS Massachusetts	Battleship	Fall River, MA	N1EPL
USS Texas	Battleship	Houston, Texas	NA5DV
USS Alabama	Battleship	Mobile, AL	W6Z
*USS Oklahoma	F C Mast Memorial	Muskogee, OK	WW2OK
*USS Arizona Signal Mast Mem.	Signal Mast & Anchor Mem.	Phoenix, AZ	W7TBC



Fargo Flooding

FARGO, N.D. Lt. Cmdr. James Marquez (left), surface operations commander for the tactical operations center in Fargo, points out the location of sand bags and broken dikes along a section of road near the Red River to Ed Conley, an external affairs specialist for FEMA, April 10, 2011. The flood response operation is being led by the state of North Dakota, the state of Minnesota and the Federal Emergency Management Agency. U.S. Coast Guard

Operation will take place in the General portions of the bands.

SSB	CW
3,860 KHz	3,539 KHz
7,260 KHz	7,039 KHz
	10,109 KHz
14,260 KHz	14,039 KHz
18,160 KHz	18,079 KHz
21,360 KHz	21,039 KHz
24,960 KHz	24,899 KHz
28,360 KHz	28,039 KHz

Digital operation (psk31) will take place around the usual frequencies: 14.070 MHz, 10.142 MHz, 18.100 MHz, 21.070 MHz, 28.120 MHz

How to be a Volunteer that Leaders Love

By: David Coursey, N5FDL

This month I'll touch on what it takes to be the volunteer every leader wants on his or her team. Here are seven tips:

Sign-up and show-up - This is really simple, but can't be overstated. Leaders need dependable volunteers and need them to commit early. We need to be able to plan based on the number of volunteers we can expect. So sign-up early, let your leader know if your plans are "tentative," and cancel as soon as you know you cannot attend. That makes the planning job much, much easier. Ten people who become available the "day of" aren't very helpful, unless I have ten unexpected no-shows.

People respect our group because they know if we commit to something, we will deliver. This group reliability depends on volunteers who are equally reliable.

Dress like an emergency communications professional — I feel stupid saying this, but what we wear impacts the image of all Amateurs. Now that we wear orange or green safety vests much of the time, individual fashion expression is not so apparent to served agencies or the public. However, as unpaid professionals we need to look like the paid professionals we work alongside.

In general, dress in office work/casual office attire when on an assignment, unless you have a special reason (cleared with your leaders) for dressing differently. If you don't wear an official government-issued patch, I am not wild about uniforms. I have a Sheriff's SAR uniform - silver badge and all - and I try very hard not to wear it. Polo shirts (with your group's logo) are almost always the best thing to wear. Try not to have too many logos or call signs (even your own) visible at the same time.

Smile, Darn Ya, Smile! - We all have better and worse days, but great volunteers develop a "game face" and "game attitude" they bring to public events. Whiners are not allowed. Egos get checked at the door. No, it really isn't about you, it's just what net control said or did, probably without thinking, and usually in the heat of the moment.

Seek Feedback (And Offer It) - We all need to talk about what we do well as well as where we could improve. Volunteers need to understand that the people who provide feedback (volunteer bosses) are sometimes insensitive louts. Please forgive us. We didn't mean to hurt your feelings and it really isn't personal. Nor is it personal when you tell ARES leaders how we might improve. We are here to serve the public and our communities and we

win or lose as a team.

The key to this is being a decent human being and treating others the way you'd want to be treated yourself. Sound familiar?

Build Your Skills - Newcomer mistakes must be forgiven. And some people - like me - make the same silly mistakes over and over. But, we need to constantly "sharpen the saw," as the book *7 Habits of Highly Successful People* calls it. Great volunteers sharpen the saw on a regular basis. The reason we provide support for all these bike rides, community fairs, rodeos and other non-emergency events is two-fold. Sometimes these events become real emergencies. Mostly, though, we're training for when "the big one" (whatever that is where you live) happens. Use these events to train yourself while having fun. Then read, take classes, do free online training, anything to improve your skills. Reading this newsletter is a good use of your time.

Help solve problems - I was really pleased at a recent event when our volunteers at a remote site solved problems that occurred at their location without help from anyone. It was an issue related to signals and geography and these were new hams - all KJ6 call signs - who took initiative and made things better on the spot. And some people say HamCram hams are know-nothings! In the process, they improved our ability to serve the organization we were working for. Great volunteers give great customer service.

Observe Lines of Authority - Not long ago, I came unglued (it had been a bad day) when a fairly inexperienced volunteer tried to do something that went against the goals of the organization. It was not ill-intended, just inexperience. But, it was the second or third problem. This was a hugely promising volunteer, who just needed to understand why certain things are done the way they are. Even insensitive louts sometimes have good reasons behind their logic.

Good volunteers have ideas and want something to do. They want to contribute but can be overly enthusiastic and cause problems without meaning to. Long story short, the volunteer and I decided to give each other the benefit of the doubt, and at his first event he performed marvelously. He wants to become a leader and at the rate he is going, he will. But, he will need to work within the rules of the organization and ask questions before just "doing."

This is another way of saying, "Respect your elders." But if you feel your local leaders are killing the group don't just sit and watch it happen.

BTOVER

“The Last Line of Defense”

FEMA Administrator Hails Amateur Radio

In an FCC forum on earthquake communications preparedness, Federal Emergency Management Agency (FEMA) Administrator Craig Fugate described the Amateur Radio operator as “the ultimate backup, the originators of what we call social media.” The forum— held May 3 at FCC Headquarters in Washington, DC — brought together officials from the White House, the Department of Homeland Security (DHS), the United States Geological Survey (USGS), FEMA, the FCC and the private sector. Fugate and FCC Bureau of Public Safety and Homeland Security Chief Jamie Barnett gave the opening remarks.

Later in the forum, Fugate spoke more on Amateur Radio. “During the initial communications out of Haiti, volunteers using assigned frequencies that they are allocated, their own equipment, their own money, nobody pays them, were the first ones oftentimes getting word out in the critical first hours and first days as the rest of the systems came back up,” he told the forum. “I think that there is a tendency because we have done so much to build infrastructure and resiliency in all our other systems, we have tended to dismiss that role ‘When Everything Else Fails.’ Amateur Radio oftentimes is our last line of defense.”



In an earthquake communications preparedness forum sponsored by the FCC, FEMA Administrator Craig Fugate praised Amateur Radio, saying “...when you need Amateur Radio, you really need it.”

Fugate said that he thinks “we get so sophisticated and we have gotten so used to the reliability and resilience in our wireless and wired and our broadcast industry and all of our public safety communications, that we can never fathom that they’ll fail. They do. They have. They will. I think a strong Amateur Radio community [needs to be] plugged into these plans. Yes, most of the time they’re going to be bored, because a lot of the time, there’s not a lot they’re going to be doing that other people aren’t doing with Twitter and Facebook and everything else. But when you need Amateur Radio, you really need them.”

BTOVER

SSN 783 Minnesota

NEWPORT NEWS, Va. (NNS) — The Navy celebrated the keel laying of Pre-Commissioning Unit Minnesota at Huntington Ingalls Industries - Newport News Shipbuilding (HII-NNS) in Newport News, Va., May 20.

In a time-honored Navy tradition, ship sponsor Ellen Roughead, wife of Chief of Naval Operations Adm. Gary Roughead, had her initials welded onto a steel plate that will be permanently affixed to Minnesota’s hull. Mrs. Roughead, a former educator, has been a tireless supporter of military families and continuing education initiatives for Navy spouses.

“We are honored to have Mrs. Roughead as Minnesota’s sponsor,” said Capt. Michael Jabaley, Virginia-class program manager. “The keel laying marks the beginning of a special relationship between Mrs. Roughead, this submarine, and her crew. Her dedication and support of our Sailors and their families is admirable and will pay dividends for the submarine force for years to come.”

Minnesota’s keel-laying is the submarine’s first major event since it began construction in February 2008; the submarine is on track to continue the Virginia-class program’s trend of early deliveries.



NEWPORT NEWS, Va. A welder inscribes the initials of ship’s sponsor Ellen Roughead during the keel laying ceremony for the Virginia-class attack submarine Pre-Commissioning Unit (PCU) Minnesota (SSN 783) at Huntington Ingalls Industries-Newport News Shipbuilding on May 20.

“Our shipbuilding partners have done an outstanding job of reducing the amount of time it takes to deliver these much-needed platforms,” said Rear Adm. David Johnson, program executive officer for submarines. “Their hard

SSN 783 Minnesota *cont'd on pg. 8*

Reflections on Alabama Tornado Disaster: On Doing More

By: Alan Sieg, WB5RMG, AEC
Huntsville-Madison County ARES

I would like to think that the years of training and decades of Field Day practice allowed me to provide my community, the Huntsville/Madison County area, with the level of support that was needed after the tornadoes of April 27. Surely with all my experience helping with Red Cross sheltering after blizzards and hurricanes, all the planning sessions and tabletops and so on and so forth, I had what it takes.

What I feel has made the most difference this time is the fact that our EMA is well known and well respected in this community. Add to that the fact that our radio group is also well known and respected by this EMA. These two factors added up to our group's ability to step into action immediately without any need to organize further, or be in-processed as raw recruits might. We were already on the inside.

Yes, our training helped. We performed just as we have practiced time and time again, and we adapted successfully to a changing environment. However, I feel that my tasking was greatly empowered by one simple fact: that I held an official credential - a standardized ID card issued by the EMA, and it was easily recognized within the ICS infrastructure on the scene. No one ever challenged my presence or my inquiries. My job could have been more challenging and much less effective.

My job on the surface was to pass messages, primarily in support of a VOAD member, the Northern Alabama Medical Reserve Corps. Their task was to establish a field clinic at the Sparkman School, just south of the Anderson Hills area that was so heavily hit. When I realized that this location was also the support base for dozens of visiting law enforcement troops, and was becoming a major supply and staging area, I recognized that I could do more to help than just talk on the radio.

I wanted to become a hub of information management: who, what, when, and where. I identified and introduced myself to anyone who would listen: school administration, county commissioners, lunch-ladies and janitors, Sheriff deputies and officers from Madison County, SWAT teams from Montgomery and Mobile, the captains and lieutenants from the National Guard who knew who I was, and even the guy that changed 90 flats on the patrol cars that first night.

I spoke with neighborhood residents and volunteers, doctors and patients. My message was simple: "You have

cont'd col. 2

SSN 783 Minnesota *cont'd from pg. 7*

work and ingenuity have helped put Virginia-class submarines with their tremendous capabilities into the hands of the submarine force at an increasing rate."

Minnesota is the tenth submarine of the Virginia class and the last of the second, or Block II, construction contract. The submarine, like all Virginia-class boats, is being built under a unique construction contract between HII-NNS and General Dynamics Electric Boat (GDEB).

In addition to Minnesota's keel laying, the Virginia Class program will celebrate PCU California's (SSN 781) commissioning in October and PCU Mississippi's (SSN 782) christening in December. Also, for the first time in 22 years, the Navy will begin construction of two submarines of the same class in the same year when the unnamed SSN 787 officially starts construction in September.

Virginia-class submarines are designed to dominate the world's littoral and deep waters while conducting anti-submarine warfare; anti-surface ship warfare; strike warfare; special operation forces support; intelligence, surveillance, and reconnaissance; irregular warfare; and mine warfare missions. Their inherent stealth, endurance, mobility, and firepower directly enable them to support five of the six Maritime Strategy core capabilities - sea control, power projection, forward presence, maritime security, and deterrence.

BTOVER

*"I am a great believer in luck and I find
that the harder I work the more I have of it."*

Thomas Jefferson

Reflections: *cont'd from col. 1*

questions - I can get you answers." They all knew that they could come to me with their questions. And I knew where to go and who to ask about what, when, and anything in between.

Communication is an essential piece of managing the information. Talking on the radio was simple, because I've had practice - it's second nature. Listening and building these relationships was also simple - because I cared. My message to you now? Don't be afraid to care, and do more than pass messages. I have never been more proud than to be a part of such an effective group. We made a huge difference. This community knows what we can do, and we know we will gladly do it again whenever we need to.

BTOVER

5G1B Net Schedule

6:30PM 4007 kHz USB

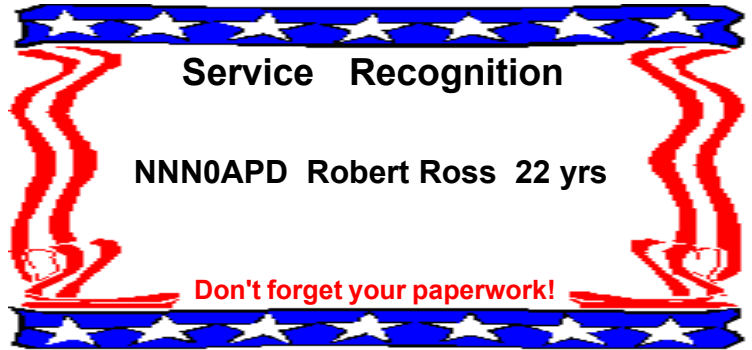
Day	NECOS	Tfc Rep
Sun.	XYA	XEE
Mon.	XEE	XEE
Tue.	BQH	BQH
Wed.	KZC	KZC
Thu.	SXU	SXU
Fri.	???	???

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.



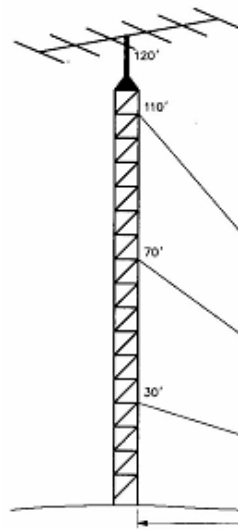
NNN0JAY Cal Fuhrman 6/21



Saturday NECOS / TREP Schedule

	NECOS	TREP
June 4	XYA	XEE
June 11	XEE	XEE
June 18	BQH	BQH
June 25	KZC	KZC
July 2	SXU	SXU
July 9	XYA	XEE
July 16	XEE	XEE

Solution for May Skills Test A tower project !



After much deliberation and penny-pinching, you have decided that no less than 120 feet of steel rising above your domain will do the job. After reviewing your wind loading and antenna requirements, the manufacturer's table dictates that the tower is to be guyed on three sides at heights of 110 feet, 70 feet, and 30 feet above the ground. The guy points are to

be at a distance of 100 feet from the tower.

Based on the tower just described...

1. How much guy wire is required, including an extra 5% for clamping and wastage?

Answer:

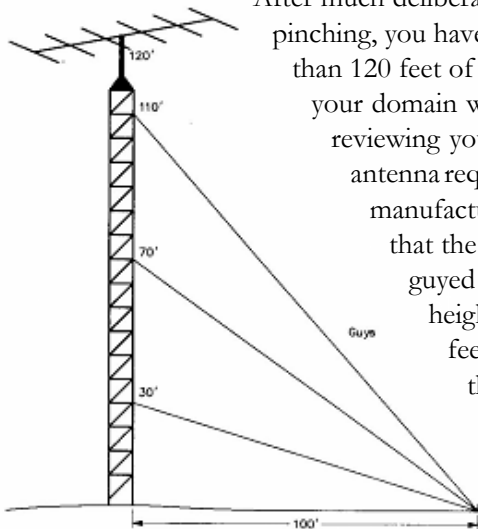
$$\text{guy wire length} = \sqrt{[(\text{attachment height})^2 + (100 \text{ feet})^2]}$$

The top guy is 148.7 feet, the middle 122 feet, and the bottom 104.4 feet for a total of 375.1 feet per side.

Totaling all three sides gives 1125.4 feet plus 5% is 1181.7 feet. Better to order 1200 feet.

-BT OVER

Test Your Analytical Skills More Tower Questions



After much deliberation and penny-pinching, you have decided that no less than 120 feet of steel rising above your domain will do the job. After reviewing your wind loading and antenna requirements, the manufacturer's table dictates that the tower is to be guyed on three sides at heights of 110 feet, 70 feet, and 30 feet above the ground. The guy points are to be at a distance of 100 feet from the tower.

Based on the tower just described, your next consideration is:

If the guys are to be broken with insulators at intervals of 27 feet, starting at the tower, how many insulators are required?..

Answer in the next issue of the Minnesota MARSGRAM

Congratulations!



June Grads