



Hamgram

Newsletter of the Winona Amateur Radio Club, Inc.

-- When All Else Fails...AMATEUR RADIO -- June 2015

www.w0ne.org

June Program - June 18

WHAT: June Club Program: *Field Day 2015*. Advance planning for this year's Field Day station (June 27 & 28) has been underway, and the June program will review plans made to date and fine tune additional items. Be sure to come to the program to keep up to date and join in!

A review of current and upcoming club projects and activities is also planned. There will be a brief social period after the program.

DATE & Time: Thursday, June 18, 2015 – 7:00 PM

WHO: All amateur radio operators and other interested persons are encouraged to attend.

WHERE: Conference Room B, Winona County Office Building, 202 West 2nd Street, Winona, MN. Doors will be unlocked from 6:45 to 7:15 PM. If you are late, please try the 146.835 repeater to have someone let you in.



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UPCOMING EVENTS:

June 27-28 – Field Day 2015. Technology Park. Set up Saturday morning and operation until early Sunday afternoon followed by teardown.

July 11-12 – GRSF Special Event. WSU Gazebo. Call sign N2B. 10:00 – 4:00 CDT both days.

July 16-- WARC Family Picnic. Lions Pavilion (Lake Park at Hamilton Street). 6:00 PM. Bring your meat, a dish to pass and utensils. The club will provide soft drinks & grills.

TRINONA 2015 Great Public Service Event

The WARC received special mention in the Winona Daily News “volunteer thank you article” for our communication support in this years Trinona. Operators were placed at eight key points along the bicycle route and provided status reports throughout this portion of the event. Additionally, two APRS units were in use—one in a SAG wagon and another in a lead vehicle for portions of the race.

Thanks to Lance, KB0YJU, for organizing the effort and thanks to all the ops who made the club’s assistance to the Trinona folks a success.



***Lance KB0YJU & Cathie KC9ZEZ
at Race HQ Tent***

Winona Amateur Radio Club and the Witoka Tower

By Dan Goltz, WK0W, and Leslie Hittner, K0BAD

The WARC Public Service Committee meets with Michael Peterson, the Winona County Emergency Management Director, on a fairly regular basis. About two years ago at one of our meetings, the question came up, “Do you guys have any need for a tower?” That question immediately stirred interest, fear, hesitation, anxiety, and plenty of discussion. Today, we are in the first stages of having a club station that has the potential to be one of the most interesting in the upper Midwest.

For background, the tower on which we have been offered space belongs to Winona County, specifically the Sheriff’s department, which oversees the Emergency Management department. Winona County acquired the tower, the equipment building and the land it sits on by tax default. The tower itself is 360 feet high. It was originally owned by a company that provided 218 MHz phone patch service for commercial traffic up and down the Mississippi River. The site is located north of Witoka off county highway 15, and has a commanding view of the river valley below. After inspected the site, the committee determined that it had great potential for Winona amateur radio. Since this was being offered to us by Emergency Management, the primary objective should be to maximize our county coverage area and make our station as useful to Emergency Management as possible.

At the suggestion of Michael Peterson, the Public Service committee and the Executive Committee worked to develop a “tower usage agreement” with the

county. This agreement spells out exactly what our responsibilities are, what the county’s responsibilities are, who pays for maintenance, and a number of other details. Having the agreement on file prevents any surprises should key personnel familiar with the project leave their positions.



Before granting access to the facility, the county had the tower inspected by a professional tower service company. A number of issues were noted and the repair bill was high--nearly thirty thousand dollars for a complete renovation. Peterson met with the Sheriff, Ron Ganrude, and received permission to approach the County Board about funding the repairs. At the

board meeting, Peterson specifically mentioned the Winona Amateur Radio Club and our involvement in emergency communications. He also mentioned that while there is currently no plan for his department to use the tower, it could be used for a backup paging site. One county official also mentioned the possibility of renting space to a commercial service to help pay for the repairs and maintenance. The County Board unanimously approved the repairs. At this time there are no other users.

Last November the tower company was contracted to begin the repairs, to be accomplished over a five year period. The most critical issues, involving structural and safety items, were to be completed as soon as the weather permitted in the spring of 2015.

Over the winter, the Public Service Committee met several times to plan our use of the facility. Generally, the committee members felt that all resources installed at the site must be able to be justified by their potential to provide emergency communications resources to Winona County Emergency Management. While the site is excellent for VHF, UHF and microwave propagation, a remote HF link was also considered, since 75 and 40 meter communications could also be needed for emergency communications with the amateur station at the state emergency management office in St. Paul, or other areas around the country.

The committee came up with this plan for using the tower:

1. Install a dual-band (2 m/70 cm) antenna near the top of the tower (330 ft) to take advantage of the highest existing 7/8" hard line mounted on the tower. A 6DB gain Hustler G6-270 was selected for this

position. The committee anticipates using this antenna for the Yaesu UHF digital repeater.

2. Install a single-band (2m) antenna approximately 30 feet below the first to take advantage of the lowest existing 7/8" hard line mounted on the tower. A 7DB gain Hustler G7-144 was selected for this position. The committee has discussed deploying one of the Motorola repeaters on 146.64 with a unique access tone different from the tone scheduled to be turned on at the KAGE site (100 Hz). This would allow operators to select which "64" system to use in order to enhance coverage. Eventually, the KAGE site could be abandoned or relegated to standby service.

3. Install a 900 MHz Microwave sector antenna at 150 feet. This antenna, with a UBIQUITI radio installed in its base, has a 120 degree beam width and 13DBi gain. The antenna is to be installed with the center of its beam oriented to 310 degrees. This antenna would serve as a central mesh node for the clubs evolving and expanding mesh network services. The committee anticipates that other 900 MHz nodes will be installed and coupled to 2.4 GHz nodes as the mesh network grows.

4. Install a 10-foot cross arm at 100 feet. This cross arm supports two lanyards that can be used to hoist a variety of HF wire antennas into place, either as an antenna center point or an antenna end point. Outer antenna end points would be arranged to fall within the protected area of tower guy points, but would not engage the tower guying system in any way.

5. Install a single-band (2m) antenna at 50 feet. This antenna, a Hustler 7DB gain G7-144, would be

fed with double-shielded coaxial cable and would be used for the APRS digipeater.

6. Install Internet service to the tower. This service would be used for system remote control and remote operating, mesh VPN connections, etc. The committee members hope that a local ISP can be persuaded to provide and filter that service so that mesh operations involving the Internet will remain legal under FCC Part 97.

Items 1, 2, 4, and 5 were completed in May. The microwave antenna was late in arriving and will have to be installed at some future time. An Internet service agreement has not been reached.

In addition to the work on the tower, itself, there is work that needs to be completed in the equipment building. A new rack that contains a filtered and regulated AC power panel has been obtained from WSU and is now in the building. AC wiring in the building needs to be updated. (Some wiring was removed when the previous owners exited the building.) Finally, some external wiring from the



building to the tower lighting system needs to be repaired.

Then the real fun can begin. We can begin installing equipment!

This is a unique opportunity for an amateur radio club. We need to do it right. The committee is well-aware of the responsibility it bears to simultaneously meet the needs of Winona County Emergency Management and the desires of WARC club members. Amateur Radio is – after all – both a service and a hobby.

Minutes of the June WARC Board Meeting were not available at the time the Hamgram was released. They will be included in next Month's issue.

**GOT TONE FOR 146.640 INTO YOUR
2-METER MEMORIES YET?**

If not, now might be a good time to do it.

The repeater is being set to key up only with a 100.0 Hz CTCSS tone.

Don't get caught unaware. Now is the time to get tone into your rig memories!

The Winona Amateur Radio Club, Inc.
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Executive Board

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Dues: \$25.00 per calendar year per license holder.
\$30.00 per calendar year for all licensed members of the same family within the same household.
Dues should be sent to: Harro Hohenner, Treasurer, P.O. Box 1264, Winona, MN 55987

Hamgram is published monthly by The Winona Amateur Radio Club, Inc.

Distribution is electronically by email and via the W0NE.org website.

Distribution to individual members by USPS is available upon request.

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Board meetings are announced in advance (WEPNet).

Monthly club programs are held on the third Thursday. The submission deadline for the **Hamgram** is Wednesday of the week *prior* to that of the club programs.

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